Gordon Lake Group of Sites Long-Term Monitoring Report – Year 6

Final Report

Prepared for:

Public Services and Procurement Canada

Prepared by:

K'alo-Stantec Limited

February 28, 2025

Project No.: 123515016

K'alo-Stantec

Limitations and Sign-off

This report titled Gordon Lake Group of Sites Long-Term Monitoring Report – Year 6 was prepared by K'alo-Stantec Limited ("K'alo-Stantec") for the account of Public Services and Procurement Canada (the "Client"). This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified property.

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Conclusions made within this report consist of K'alo-Stantec's professional opinion as of the time of the writing of this report and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition. This report should not be construed as legal advice.

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The conclusions are based on the site conditions encountered by K'alo-Stantec at the time the work was performed at the specific testing and/or sampling locations, and conditions may vary among sampling locations. Factors such as areas of potential concern identified in previous studies, site conditions (e.g., utilities) and cost may have constrained the sampling locations used in this assessment. In addition, analysis has been carried out for only a limited number of chemical parameters, and it should not be inferred that other chemical species are not present. Due to the nature of the investigation and the limited data available, K'alo-Stantec does not warrant against undiscovered environmental liabilities nor that the

sampling results are indicative of the condition of the entire Site. As the purpose of this report is to identify site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the Site is beyond the scope of this assessment.

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Executive Summary

K'alo-Stantec Limted (K'alo-Stantec) was contracted by Public Services and Procurement Canada, on behalf of Crown-Indigenous Relations and Northern Affairs Canada - Contaminants and Remediation Directorate, to complete Year 6 of the Gordon Lake Group of Sites (GLG Sites) Long-Term Monitoring (LTM) program. Year 6 of the program consists of a modified Phase I LTM program as the Performance Assessment Review (PAR) and Phase II LTM Plan were both still in development at the time of the workplan for Year 6 of the GLG Sites LTM. The scope of work for Year 6 of the LTM Program included several tasks outlined in the Phase I LTM Plan but excluded work with a biennial monitoring frequency (completed in Years 1, 3, and 5) and with a quadrennial monitoring frequency (completed in Years 1 and 5).

The GLG Sites consist of six mine sites and three advanced exploration sites located approximately 80 kilometres northeast of Yellowknife, Northwest Territories. These sites are as follows: former mines Burnt Island, Camlaren, Goodrock, Kidney Pond, Treacy, and West Bay and former exploration sites Murray Lake, Storm property and Try Me.

The purpose of the Phase I LTM Plan is to confirm that the selected remedial/risk management measures implemented during the remediation program remain protective of human health and the environment by monitoring the potential for residual risks remaining at the nine GLG Sites following the completion of the remediation program.

The modified LTM program conducted in Year 6 consisted of monitoring the Surveillance Network Program (SNP), including groundwater and surface water sampling in fourteen locations. Groundwater and surface water sampling consisted of monitoring for *in-situ* field parameter and laboratory analysis of samples for general chemistry, total metals and petroleum hydrocarbon parameters.

Results of Year 6 monitoring indicate generally consistent results to previous LTM Years. Applied guideline exceedances of aluminum and iron in surface water samples collected from SNP 2016-11d, both in 2024 and historical were concluded to likely be related to elevated total suspended solid measurements. Applied guideline exceedances of ammonia were observed in groundwater samples from five of the six monitoring wells. Ammonia exceedances were previously not reported in groundwater samples at the GLG Sites. Parameters that were elevated above guidelines in SNP 2016-7 samples in 2024 were plotted with historically reported concentrations and include aluminum, iron, sulphate, cadmium, copper, manganese, and nickel. It was observed that reported elevated concentrations of ammonia in 2024 were attributed to different guidelines being used in 2024. Additionally, concentrations of uranium appear to be increasing in SNP 2016-7a and SNP 2016-7c over time, and selenium has been observed to be increasing in concentration over time in SNP 2016-7d.

The modified Year 6 LTM program also included monitoring of and downloading of data from the instruments installed in Tailings and Soil Containment Area (TSCA) at Camlaren. During these monitoring events thermistor VT1, which had offline since September of 2022 and vibrating wire piezometer (VWP) VB2, which had been offline since September 2020, were repaired. A geotechnical visual dam inspection was also completed and is presented in a separate under a separate cover.

Results of thermistor data downloaded during Year 6 indicated generally consistent results to previous Years. It should be noted that VT1, which was repaired in 2024, requires calibration.

Visual monitoring at the mine sites Burnt Island, Camlaren (and Zenith Island), Kidney Pond, Treacy, and West Bay, included inspections identifying the following: erosion, frost action, sloughing and cracking, animal burrows, vegetation re-establishment and percentage cover, vegetation stress, soil or water staining, odours, seepage points or ponded water, exposed debris, and any other features which may compromise the integrity of the site.

Recommendations based on the Year 6 LTM program include:

- Burnt Island – Portal: deep depressions at top of backfilled area. Top of slope should be closely monitored
- Burnt Island – Shaft: small depression observed on the southwest end of the shaft. Should be monitored for changes
- Camlaren TSCA: animal burrowing that occurred in the Summer and Fall of 2024 should be repaired and animal deterrents should be installed where applicable/practical. For the minor erosion, regrading to prevent concentrated overland flow is recommended
- Kidney Pond – Portal: Rills and evidence of settling observed on south side of slope. Rills appear similar in size and location as previous years. Continue monitoring for changes.
- West Bay – Open Pit: fence was observed to be falling over in spots, and gaps under the fence are up to 1 m high in areas. This allows access to both animals and humans to the open pit

The statements made in this Executive Summary text are subject to the limitations included in “Limitations and Signoff” section and are to be read in conjunction with the remainder of this report.

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Abbreviations

°C ..... degrees Celsius
ALS ..... ALS Environmental
ARD ..... acid rock drainage
BFD ..... blind field duplicate
BP ..... before present
BTEX ..... benzene, toluene, ethylbenzene, and xylenes
CALA ..... Canadian Association for Laboratory Accreditation
CCME ..... Canadian Council and Ministers of the Environment
CEQG ..... Canadian Environmental Quality Guidelines
CF ..... calibration factor
CIRNAC ..... Crown-Indigenous Relations and Northern Affairs Canada
COA ..... certificate of analysis
COSEWIC ..... Committee on the Status of Endangered Wildlife in Canada
DO ..... dissolved oxygen
FAL ..... freshwater aquatic life
FCSI ..... Federal Contaminated Sites Inventory
FIGQG ..... Federal Interim Groundwater Quality Guidelines
GLG Sites ..... Gordon Lake Group Sites
GPS ..... global positioning system
GSI ..... geotechnical site inspection
ha ..... hectares
ID ..... identification
IDEA ..... Interdepartmental Data Exchange Application
K'alo-Stantec ..... K'alo-Stantec Limited
km ..... kilometre
kPa ..... kilopascal
L ..... B unit
L_0 ..... initial instrumental B unit

Lat	Latitude
LNAPL	Light non-aqueous phase liquids
LOD	limit of detection
Long	Longitude
LTM	Long-Term Monitoring
LUP	Land Use Permit
m	metre
masl	metres above sea level
mbgs	metres below ground surface
mbp	metres below pipe
mg/L	milligrams per litre
mL/min	millilitres per minute
mm	millimetres
MVLWB	Mackenzie Valley Land and Water Board
NT	Northwest Territories
NWT SARC	Northwest Territories Species at Risk Committee
ORP	oxidation reduction potential
PAR	Performance Assessment Review
PHC	Petroleum Hydrocarbon
PSPC	Public Services and Procurement Canada
QA/QC	Quality Assurance and Quality Control
QMS	quality management system
RPD	Relative Percent Difference
S	barometric pressure
S_0	initial instrumental barometric pressure
SAR	Species at Risk
SARA	Species at Risk Act
SCC	Standards Council of Canada
SCP	specific conductance
SNP	Surveillance Network Program
SOP	Standard Operating Procedure

Stantec .....Stantec Consulting Ltd.

T .....temperature

T_0 .....initial instrumental temperature

TDS .....total dissolved solids

TF .....temperature correction factor

TSCA..... Tailings and Soil Containment Area

TSS .....Total Suspended Solids

UTM ..... Universal Transverse Mercator

VWP ..... vibrating wire piezometer

WL .....water licence

1 Introduction

Public Services and Procurement Canada (PSPC), on behalf of Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Contaminants and Remediation Directorate, contracted K'alo-Stantec Limited (K'alo-Stantec) to complete monitoring activities for Year 6 of the Long-Term Monitoring (LTM) Program at the Gordon Lake Group Sites (GLG Sites). The GLG Sites fall within the Akaitcho Territory and are located in the Mowhì Gogha De Niitlèè boundary within the Wek'èezhìi management area of the Tłı̨chǫ settlement area. All nine Sites fall under the custodial responsibility of CIRNAC. The area is asserted as a traditional use area for Métis people of the Great Slake Lake area, who are represented by the Northwest Territory Métis Nation and the North Slave Métis Alliance.

The GLG Sites area a group of six mine sites and three advanced exploration sites located approximately 80 kilometres (km) northeast of Yellowknife, Northwest Territories (NT) (refer to Figure A.1, Appendix A). The sites were active between the late 1930s and 2008 with activities ranging from open-pit mining to exploratory drilling. The mine sites include Burnt Island, Camlaren, Goodrock, Kidney Pond, Treacy, and West Bay, and the advanced exploration sites include Murray Lake, Storm Property, and Try Me.

1.1 Objectives

The overall objectives of LTM were defined in the Phase I LTM Plan (Stantec, 2018a) and aim to confirm that the implemented remedial/risk management measures remain protective of human health and the environment. This is done by monitoring the potential for residual risks remaining at the GLG Sites following the completion of the remediation program.

The Phase I LTM Plan was established by Stantec in 2018 (Stantec, 2018a) and was set to begin in 2019 and run for five years ending in 2023. At the completion of this phase, results were to be evaluated within a Performance Assessment Review (PAR) to determine if monitoring is concluded (i.e. site closure), or if additional monitoring is required at a reduced frequency. At the time of the development of the Year 6 workplan, the PAR was underway, and the Phase II LTM Plan had not yet been completed. Due to these circumstances, a modified LTM Program following the existing Phase I LTM Plan and incorporating select recommendations from the Year 5 Annual LTM Report (AECOM, 2024), was implemented.

The scope of work for Year 6 of the LTM Program included several tasks outlined in the Phase I LTM Plan but excluded work with a biennial monitoring frequency (completed in Years 1, 3, and 5) and with a quadrennial monitoring frequency (completed in Years 1 and 5). It was assumed that these monitoring components were completed during the previous year's activities (in Year 5).

1.2 Scope of Work

The scope of work for the Year 6 of LTM Program includes a modified LTM program following the existing Phase I LTM Plan and is defined as follows:

- Review the Phase I LTM Plan, Years 1 through 5 Monitoring Reports, and the Water Licence (WL) and Land Use Permit (LUP)
- Prepare a Safe Work Plan
- Submit a Work Plan including the proposed schedule, sampling plan, measurement methodologies, quality assurance / quality control (QA/QC) procedures and Project personnel
- Complete a visual geotechnical dam inspection at the Camlaren Tailings and Soil Containment Area (TSCA)
- Conduct a bi-annual visual monitoring at six mine sites for erosional features and vegetation
- Inspection and data downloads from the instrumentation installed on the TSCA, monthly during open water
- Surveillance Network Program (SNP) monitoring consisting of groundwater sampling at 6 locations at Camlaren, and surface water sampling in 18 locations: 1 at Burnt Island, 7 at Camlaren, 1 at Kidney Pond, 1 at Treacy, 8 at West Bay, monthly during open water
- Provide training to and include the Job Shadow arranged by CIRNAC as part of the Community Based Monitoring initiative
- Complete Daily and Monthly Field Reports after the completion of each field investigation
- Complete a Job Shadow report following the field program
- Complete Year 6 Long-Term Monitoring Report
- Complete Year 6 Long-Term Monitoring Geotechnical TSCA Dam Inspection Report

1.2.1 Reporting

This Year 6 LTM report provides the results of the field assessment activities undertaken in 2024. Supplementary information is provided in the appendices, including site figures presented in Appendix A, data tables provided in Appendix B, a photographic log displayed in Appendix C, inspection forms provided in Appendix D, daily field reports presented in Appendix E, copies of the laboratory certificates of analysis (COAs) provided in Appendix F, and the 2024 Camlaren Tailings and Soil Containment Area Annual Geotechnical Inspection Report is provided in Appendix G.

2 Site Background

2.1 List of Key Documents

K'alo-Stantec reviewed historical reports provided by CIRNAC. These reports included information about methodologies used during previous LTM program years, past and present site conditions, difficulties encountered in the past, future recommendations, and potential considerations for the Year 6 of the LTM program. The key documents reviewed included:

- Mackenzie Valley Land and Water Board (MVLWB, 2016. Land Use Permit (LUP) MV2016X0021 (MVLWB, 2016)
- MVLWB, 2017. Water Licence (WL) MV2016L8-0006 (MVLWB, 2017)
- MVLWB, 2019. WL MV2016L8-0006 - Version 1 (MVLWB, 2019)
- MVLWB, 2024. WL MV2023L8-0017 (MVLWB, 2024), this document was not available during the planning stages of the Year 6 LTM
- Stantec, 2018. Phase I – Long-Term Monitoring Plan – Gordon Lake Group of Sites (Stantec, 2018a)
- Stantec Consulting Ltd. (Stantec), 2018. UPDATED REPORT: Construction and Post Construction Monitoring Plan – Gordon Lake Group Sites (Stantec, 2018b)
- Stantec, 2020. Long-Term Monitoring (Year 1) – Gordon Lake Group of Sites (Stantec, 2020)
- Stantec, 2021. Long-Term Monitoring (Year 2) – Gordon Lakes Group of Sites (Stantec, 2021)
- Englobe Corp., 2022. Long-Term Monitoring (Year 3) – Gordon Lakes Group of Sites, NWT (Englobe, 2022a)
- Englobe Corp., 2023. Comprehensive Monitoring (Year 4) Report – Long-Term Monitoring of Gordon Lake Group, NWT (Englobe, 2022b)
- AECOM., 2024. Gordon Lake Group Sites - Long- Term Monitoring Year 5 (AECOM, 2024)

2.2 Site Description

The GLG Sites were active between the late 1930s and 2008 with several companies involved in the mining operations. Activities ranged from open-pit mining to exploratory drilling and were generally undertaken independently between the mine sites. With the mine sites abandoned, several environmental concerns arose from materials and debris left on-site including:

- Petroleum hydrocarbon (PHC) and/or metal impacted soil/tailings, sediment/submerged tailings, and surface water
- Tailings and waste rock piles with the potential to produce acid rock drainage (ARD)
- Hazardous and non-hazardous debris and physical hazards (mine openings and trenches)

Remediation efforts were conducted at the GLG Sites between 2017 and 2019, and the Phase I LTM Plan was put in place to monitor the effectiveness of these efforts, beginning in 2019. The Phase I LTM components for each of the GLG Sites are outlined in Table B.1 in Appendix B. Site specific identification information is outlined in Table 2.1.

General descriptive information applicable to the GLG Sies is provided in the following sub-sections. As many general site characteristics have not changed over time (e.g., ecozones, geologic setting), some of the information provided in the following sub-sections is sourced directly from the Gordon Lake Gap Assessment Report (Stantec, 2016).

2.2.1 Climate and Weather

The GLG Sites are situated in the subarctic climate zone and experience brief, cool summers and long cold winters with low levels of precipitation concentrated in the summers (Ritter, 2003). The nearest long-term weather station (Station ID 2204100) is located at the Yellowknife airport, approximately 80 km to the southwest of Gordon Lake. According to historical averages (1991-2020) provided by the Government of Canada's Climate Normals Station Data, the weather station reports seven months of subzero temperatures for the area. The highest and lowest average temperatures are reported for July (17.1 degrees Celsius [^{o}C]) and January (-25.5 ^{o}C), respectively. The majority of the yearly precipitation occurs during the five summer months, 172.5 millimetres (mm) with the winter months recording an average of 121.4 mm of precipitation (ECCC, 2024).

2.2.2 Hydrology

As stated in the Gordon Lake Gap Assessment Report (Stantec, 2016):

"The watershed surrounding the GLG Sites is difficult to define as the area is encompassed by a vast number of smaller water bodies. The Cameron River system, which is located near the West Bay site, has been defined as the location to which the lake's water outlets. Seven months of the year, typically subzero temperatures cause the surface water to freeze. This may cause a flux in precipitation infiltration, which results in either surface water runoff or a greater accumulation on the surface (Humphries, 2005)."

2.2.3 Surficial Geology and Mineralization

As stated in the Gordon Lake Gap Assessment Report (Stantec, 2016):

"The GLG Sites lie within the Slave Province, an Archean granite-greenstone terrane located in the northwestern Canadian Shield. The supracrustal rocks of this terrane comprise sedimentary and volcanic rocks intruded by granitic bodies that have undergone multiple phased deformation events and date between 2.71 and 2.65 x 10^{9} years ago) (Mortensen, Thorpe, Padgham, King, & Davis, 1988). The GLG Sites occur within the Burwash Formation, part of the Duncan Lake Group, assigned to the Yellowknife Supergroup (Bleeker & Villeneuve, 1995). The metasedimentary rocks of the Burwash Formation are dominantly low to high grade metamorphosed turbidite (metaturbite) sequences of well-preserved mudstone grading to greywacke. The GLG Sites are situated on two members of the Burwash Formation, Atl and Atm, low-grade and medium-grade metaturbites, respectively.

Table 2.1 Site Identification Information

GLG Site	FCSI[1] Number of Contaminated Site	Site Name as listed in IDEA[2]	Reporting Organization	Legal description or metes and bounds	Approximate Site Area (ha)[3]	Lat/Long (degrees, min, sec)[4]	Centre of Site Coordinates UTM[5]	NWT[6] Contaminated/ Waste Site Database Number
Burnt Island	23547	Burnt Island Mine Site	CIRNAC	n/a	12.9	63º3'49" N 113º10'6" W	6994531 m N 390423 m E	220
Camlaren	162	Camlaren Mine	CIRNAC	n/a	12	62º59'8" N 113º12'19" W	6985896 m N 388258 m E	205
Goodrock	351	Goodrock Mine	CIRNAC	n/a	2.67	63º01'51" N 113º08'1" W	6990816 m N 392056 m E	466
Kidney Pond	24120	Kidney Pond / Knights Bay	CIRNAC	n/a	10	62º57'20" N 113º20'9" W	6982742 m N 381430 m E	474
Murray Lake	24158	Murray Lake Exploration Site	CIRNAC	n/a	3.2	63º00'45" N 113º24'30" W	6989573 m N 278251 m E	490
Storm Property	24145	Storm Property	CIRNAC	n/a	2.4	63º00'21" N 113º07'29" W	6988017 m N 392413 m E	471
Treacy	24141	Treacy Mine	CIRNAC	n/a	0.5	63º56'28" N 113º20'14" W	6981182 m N 381894 m E	475
Try Me	24155	Try Me Exploration Site	CIRNAC	n/a	2.5	63º04'09" N 113º28'32" W	6995654 m N 374744 m E	488
West Bay	C1037001	West Bay / Black Ridge	CIRNAC	n/a	2.5	62º55'1" N 113º14'4" W	6978287 m N 386523 m E	211/302

Notes:
[1] FCSI = Federal Contaminated Sites Inventory
[2] IDEA = Interdepartmental Data Exchange Application
[3] ha = hectares
[4] Lat/Long (degrees, min, sec) – Latitude / Longitude (degrees, minutes, seconds)
[5] UTM = Universal Transverse Mercator
[6] NWT = Northwest Territories
Grey highlights refer to sites that were not visited in Year 6 of the LTM

The Slave Province is recognized for its province-wide zoning of three major gold deposit types; gold hosted in 1) quartz veins, 2) shear zones, and 3) iron formations. Most gold deposits formed before the intrusion of the major granitic bodies (Ferguson, Waldron, & Bleeker, 2005). The GLG Sites feature mainly gold-sulphide bearing white-smoky quartz veins hosted in metaturbites of the Burwash Formation. Sulphide minerals associated with these deposit types include pyrite, pyrrhotite, marcasite, chalcopyrite, arsenopyrite, galena, and sphalerite.

This region was last covered by the Late Wisconsin glaciation event until about 11,000 years before present (BP) and was completely ice-free by 10,000 BP (Dyke & Prest, 1987). Paleo ice flow was generally to the southwest (Kerr, 1990) as apparent by orientation of drumlins and eskers (Olthof, Kerr, Wolfe, & Eagles, 2014).

Retreating ice-sheets deposited fine-grained glaciolacustrine sediments below 320 to 350 metre (m) elevation in the Great Bear and Great Slave basins. In the Gordon Lake area, re-worked glacial and glaciofluvial sediments are the dominant surficial material with till thickness and distribution increasing westerly and northwesterly. Till thickness varies but is generally greater than 2 m occurring as silt to gravel blankets, following bedrock topography, and may include patches of till veneer or drumlinoids.

With respect to permafrost, the Gordon Lake area is located within the extensive discontinuous permafrost zone, where permafrost can be found on 50% to 90% of the land (Heginbottom, Dubreuil, & Harker, 1995). Within the extensive discontinuous permafrost zone, ground ice content in the upper 10 m of ground is believed to range from low to medium (<10 % to approximately 20% by volume) and consist mainly of frozen pore water (i.e. interstitial ice), ice lenses and ice veins (i.e. segregated ice and reticulated ice). Ice wedges, which are a type of patterned ground resulting from thermal contraction and cracking of the ground surface (ACGR, 1998) might occur locally.

The distribution of the permafrost in the area is related to several interconnected factors such as the local climate, ground surface topography, material types and textures, vegetation coverage and drainage conditions. Similarly, the variation in the amount of ground ice present within the permafrost is found to be directly related to factors such as the nature of the surficial deposits and characteristics of the local terrain.

No data is currently available on the local distribution of the permafrost in the Gordon Lake area; however, our knowledge of northern environments suggests that peat bogs and fine-grained deposits (e.g., silty to clayey lacustrine and/or glaciolacustrine sediments) are likely the only terrain units containing permafrost in the area. Bedrock outcrops and well- to rapidly-drained, coarse-grained deposits such as till and glaciofluvial deposits are likely free of permafrost. Where permafrost is present, the active layer (i.e. the portion of soil that thaws each summer and refreezes in the winter) would typically range between 0.5 m and 1.5 m deep and would vary greatly depending on local ground conditions."

2.2.4 Bedrock Geology

As stated in the Gordon Lake Gap Assessment Report (Stantec, 2016):

"Most of the bedrock in the Gordon Lake Area is Archean (over 2.5 billion years old) or Paleoproterozoic 1.6 – 2.5 billon years old) in age (ECG, 2008).The bedrock surface is often highly fractured (frost shattered) and subject to extensive frost heave. The borrow assessment completed at the GLG Sites identified discontinuous veneers of till and glaciofluvial deposits. The till veneers generally consist of sandy material with variable amounts of angular to sub-rounded gravel to bolder size fragments. The glaciofluvial material, mainly eskers and/or outwash deposits, are predominately sandy material, with localized gravel. Coarse fragments were generally located at the surface (i.e. 0 to 30 centimetre in depth) and their frequency decreases rapidly with depth. The material is well sorted and contains very low amounts of fines (i.e. silt and clays)."

2.2.5 Biological Environment

The GLG Sites are located within the Great Slave Upland Low Subarctic Ecoregion of Taiga Shield. The landscape is dominated by southwest-sloping bedrock. The bedrock is host to scattered black spruce with dwarf birch woodlands growing along bedrock fractures. More continuous vegetation is found in the till plains and white spruce – dwarf birch – lichen woodlands are present in outwash areas. Jack pine groves can be found in the southern end of the ecoregion. This ecoregion is an important part of the winter range of several caribou herds including the Bathurst, Bluenose East, and Ahiak Herds (ECG, 2008).

2.3 Cultural, Natural, and Historical Preservation

2.3.1 Land Use and Claims

The GLG Sites fall within the asserted Akaitcho Territory and are also located in the Mǫwhì Gogha Dè Nıı̨tłèè boundary within the Wek'èezhìi management area of the Tłı̨chǫ settlement area. The area is asserted as a traditional use area represented by the Yellowknives Dene, Denínu Kų́ę́, Łútsël K'é Dene First Nation, Fort Resolution Métis Government, and the North Slave Métis Alliance. Based on ongoing communication with project stakeholders, there is occasional recreational use of the GLG Sites by the local Indigenous community members.

2.3.2 Species at Risk

The potential presence of Species at Risk at the GLG Sites was assessed based on known ranges. Information was obtained by the Government of the Northwest Territories (Government of the Northwest Territories, 2024). Outlined in Table 2.2 are species that have ranges that include or are near the GLG Site. The territorial and federal status ranking of these species are also listed.

Table 2.2 Species at Risk at the Gordon Lake Group of Sites

Common Name	Scientific Name	NWT General Status Rank[a]	COSEWIC[b]	*Species at Risk Act* Schedule 1[c]	Typical Habitat[a]
Mammals					
Barren-ground Caribou (Bathurst herd)	*Rangifer tarandus groenlandicus*	At Risk	Threatened	Not Listed[e]	Beverly herd and Bathurst herd annual range
Eastern Red Bat	*Lasiurus borealis*	Presence Expected	Endangered	Not Listed[e]	Suspected range
Little Brown Myotis	*Myotis lucifugus*	At Risk	Endangered	Endangered	Near trees and water; roosts in man-made structures, tree cavities, caves and mines
Wolverine	*Gulo gulo*	Sensitive	Special Concern	Special Concern	Large, sparsely inhabited wilderness
Birds					
Bank Swallow	*Riparia riparia*	At Risk	Threatened	Threatened	Migratory; steep banks of soft earth near water
Barn Swallow	*Hirundo rustica*	Sensitive	Special Concern	Threatened[d]	Migratory; open areas, sheltered vertical or horizontal substrate, near water
Common Nighthawk	*Chordeiles minor*	Sensitive	Special Concern	Special Concern	Migratory; open woodland or in city
Evening Grosbeak	*Coccothraustes vespertinus*	Secure	Special Concern	Special Concern	Resident; open, mature conifer forests
Harris's Sparrow	*Zonotrichia querula*	Sensitive	Special Concern	Special Concern	Migratory; trees between forest and tundra
Horned Grebe	*Podiceps auritus*	Sensitive	Special Concern	Not Listed[e]	Migratory; small to medium ponds, shallow bays of lakes
Lesser Yellowlegs	*Tringa flavipes*	Sensitive	Threatened	Not Listed[e]	Migratory; open forests and muskeg, open water
Olive-sided Flycatcher	*Contopus cooperi*	Sensitive	Special Concern	Special Concern	Migratory; tall snags, conifers, open habitat including fires
Red-necked Phalarope	*Phalaropus lobatus*	Sensitive	Special Concern	Special Concern	Migratory; freshwater with low vegetation shorelines
Rusty Blackbird	*Euphagus carolinus*	Sensitive	Special Concern	Special Concern	Migratory; wet coniferous and mixed forests
Short-eared Owl	*Asio flammeus*	Sensitive	Threatened	Special Concern[d]	Migratory; open areas, marshes and prairie

Common Name	Scientific Name	NWT General Status Rank[a]	COSEWIC[b]	*Species at Risk Act* Schedule 1[c]	Typical Habitat[a]
Insects					
Transverse Lady Beetle	*Coccinella transversoguttata*	Secure	Special Concern	Special Concern	Wide variety of habitats, throughout NT
Yellow-banded Bumble Bee	*Bombus terricola*	Sensitive	Special Concern	Special Concern	Habitat generalist, nests underground

Notes:
[a] As listed by the NWT SARC (Government of the Northwest Territories, 2024)
[b] As listed by COSEWIC (Comittee on the Status of Endangered Wildlife in Canada, 2023)
[c] As listed on Schedule 1 of the Federal Species at Risk Act (Minister of Justice, 2024)
[d] Species is under consideration for a status change
[e] Species is under consideration for addition
SAR = Species at Risk
COSEWIC = Committee on the Status of Endangered Wildlife in Canada
NWT SARC = Northwest Territories Species at Risk Committee

3 Year 6 Long-Term Monitoring Program

The water quality monitoring program and visual monitoring and instrumentation components of the GLG Site LTM field program were completed by two K'alo-Stantec environmental professionals over four monthly field program events during the open water season (one event in each of June, July, August, and September 2024) as interpreted by K'alo-Stantec from the conditions outlined in the MVLWB WL (MV2016L8-0006 (MVLWB, 2017) and monitoring requirements described in the Phase I LTM Plan (Stantec, 2018b). MVLWB WL MV2016L8-0006 was used in the development the scope of work for the Year 6 LTM program as the updated MVLWB WL (i.e., WL MV2023L8-0017) was not available at that time.

3.1 Geotechnical Inspection

An annual Geotechnical Site Inspection (GSI) of the Camlaren TSCA was competed by a licenced Professional Engineer, following Canadian Dam Association Guidelines, during one of the four field events (July 2024). The Professional Engineer was accompanied by a support engineer. Prior to the inspection, a review of existing documents and background information relating to the structure was conducted. During the site visit, visual observations of major failures and features that may compromise the integrity of the engineered structure were documented, both in writing and with photographic records that note the scale, global positioning system (GPS) reference and directional viewpoint to document observed conditions and substantiate recorded observations. The findings of the geotechnical investigation are provided under separate cover; a summary is provided in Section 4.1 and the report titled *2024 Camlaren Tailings and Soil Containment Area Annual Geotechnical Inspection Report* is provided in Appendix G.

3.2 Visual Monitoring

Non-intrusive visual monitoring was conducted to confirm cover and backfill material is stable with no significant erosion, washout or settling. Visual monitoring activities included photographing and measuring established locations to monitor year-to-year changes. Records, both photographic and notes, of erosion features, frost action, sloughing, cracking, animal burrows, soil or water staining, odours, seepage points, ponded water, water turbidity, exposed debris, condition of monitoring instruments, vegetation reestablishment, vegetation cover, vegetation health, and/or and any other features which may represent compromised integrity of a site, were collected. A photographic log was maintained and included the date, time, GPS location, direction photograph was taken, and a brief description of the contents of the photograph. In some cases, conditions observed, recorded and reported herein cannot be supported by photograph(s) due of a technical malfunction during data transfer of the June photographs.

Designated visual monitoring locations for Burnt Island, Camlaren, Goodrock, Kidney Pond, Murray Lake, the Storm Property, Treacy, Try Me and West Bay are defined in the Phase I LTM (Stantec, 2018a), are depicted in Figures A.2 to A.10.1, respectively, in Appendix A, are listed in Table B.1 in Appendix B, and photographs are presented in Appendix C.

3.3 TSCA Performance Monitoring

The TSCA is an engineered mine waste containment facility that contains Camlaren mine tailings and impacted material and non-hazardous debris from the other GLG Sites. Impacted material and non-hazardous waste from the GLG Sites were transported to Camlaren in the winter of 2018 and in the summer of 2018. Monitoring of TSCA performance is conducted by collecting data from the TSCA area until a "steady-state" is established. The scope of the TSCA monitoring is summarize in Table 3.1 and discussed below.

Table 3.1 Camlaren TSCA Performance and Geotechnical Inspection Monitoring Requirements

Engineered or Administrative Control	LTM Station	Monitoring Requirements
Visual Inspection (with Vegetation Monitoring)	-	Visually inspect top cover, slopes, toes, ditches, and instrumentation for signs of erosion, settlement, seepage, structural failure, and/or compromised liner and/or cap integrity. Visually monitor vegetative health to confirm stable or increasing growth.
TSCA	-	Visual inspection for any major failures and other features that may compromise the integrity of the engineered structure.
Standpipe Wells	MW1	Measure the groundwater elevations (metres above sea level [masl]) within/around the TSCA.
	MW2	
Thermistors	VT1	Download thermal conditions within the TSCA from thermistors.
	VT2	
Vibrating Wire Piezometers	VB1	Download piezometer data to measure the groundwater elevations (masl) within the TSCA.
	VB2	
	VB3	

3.3.1 Visual Monitoring

Visual monitoring of the TSCA is conducted bi-annually to assess the TSCA performance, based on the WL (Stantec, 2018a). The inspection includes a thorough visual inspection of the top cover, slopes, toes, ditches, and instrumentation for signs of erosion, settlement, seepage, structural failure and/or compromised liner and/or cap integrity.

Potential mitigative actions are triggered by the visual inspection if the total threshold values outlined below are exceeded during the LTM program as compared to the original baseline measurements:

- Differential settlement of greater than 0.5 m (including for instrumentation stick-ups)
- Slopes slumping with horizontal cracks/movement of greater than 0.3 m
- Slopes or cover erosion resulting in greater than 25% loss of material thickness
- Frost heave effects greater than 0.2 m
- Vegetation (primarily tree species) observed that typically develop roots deeper than 0.3 m
- Animal activities, such as burrowing, resulting in depth greater than 0.3 m

- Erosion control coco matting (full semi-circle, approximate length of 5 m) is no longer deemed effective
- Ditch erosion exposes any amount of visible liner
- Ditch blockage of any debris/object that impedes flow or causes ponding

Potential mitigative actions are summarized in Table B.1 in Appendix B. Photographic logs and detailed observation records were collected and used to support management decisions. Depending on field observations, increased monitoring frequency (e.g. approaching triggers for action), or review and/or modification of the remedial design components may be required.

It should be noted that there are no exit criteria associated with performance monitoring. However, the frequency of monitoring is to be adjusted (e.g. decreased) after the Phase I LTM is completed. Phase I LTM was initially supposed to be completed at the end of Year 5; however, with the PAR and Phase II LTM documents outstanding at the time of the development of the workplan, the monitoring frequency was not reduced for Year 6. The performance monitoring associated with the TSCA is expected to continue until deemed no longer necessary, which will be based on long-term results of performance monitoring (i.e. data obtained over decades).

3.3.2 TSCA Instrumentation

For the Year 6 LTM program, the WL, MV2016LB-0006 (MVLWB, 2017) was interpreted to include four field events during which the instrumentation installed in the TSCA will be inspected. The instrumentation includes two thermistors, six vibrating wire piezometers (VWPs) installed in three locations, and two standpipe monitoring wells. Additionally, there are four monitoring wells located outside of the TSCA footprint, which are part of the SNP network. Details of the TSCA instrumentation are summarized in Table 3.2, and the locations are presented on Figure A.3.1 in Appendix A.

Table 3.2 TSCA Instrumentation Details

Instrumentation Identification	Type of Installation	Northing	Easting	Ground Surface Elevation (masl)	Borehole Depth (mbgs)[2]
VT1	Thermistor String	6986005	388351	298.89	5.9
VT2	Thermistor String	6956055	388352	298.84	7.0
VB1	VWP	6985957	388335	298.11	6.4
VB2	VWP	6986026	388381	297.99	6.1
VB3	VWP	6986079	388353	298.48	7.0
MW1	Monitoring Well	6986005	388356	298.73	5.3
MW2	Monitoring Well	6986051	388352	298.96	7.1
MW3[1]	Monitoring Well	6986073	388393	292.41	7.2
MW4[1]	Monitoring Well	6985962	388376	294.52	3.8
MW5[1]	Monitoring Well	6985922	388236	296.58	4.8
MW6[1]	Monitoring Well	6986066	388238	295.45	5.4

Notes:
[1] Monitoring well outside TSCA footprint, part of the SNP.
[2] mbgs = metres below ground surface

Installation details of the six monitoring wells at the TCSA are provided in Table 3.3.

Table 3.3 Groundwater Monitoring Wells Installation Details

Borehole Identification	Borehole Depth (m)	Top of Screen		Bottom of Screen	
		Depth (m)	Elevation (masl)	Depth (m)	Elevation (masl)
MW1	5.3	2.1	291.33	5.2	286.13
MW2	7.1	4.0	287.86	7.0	280.86
MW3[1]	7.2	5.7	279.51	7.2	272.31
MW4[1]	3.8	2.3	288.42	3.8	284.62
MW5[1]	4.8	3.2	288.58	4.75	283.83
MW6[1]	5.4	3.9	286.15	5.4	280.75

Note:
[1] Monitoring well outside TSCA footprint, part of the SNP.

Thermistors were installed in the TSCA to monitor permafrost levels within the containment area. The ingress of permafrost into the containment area provides chemical and physical stability and is necessary for its longevity. The thermistor sensors were installed at 0.5 m intervals in two locations within the TSCA to depths of 5.9 m (VT1) and 7.0 m (VT2) as documented in the installation records found in Appendix D of the Phase I LTM Plan (Stantec, 2018a). Information for the installed thermistors is presented in Table 3.4.

Table 3.4 Thermistor Installation Details

Instrumentation Identification	Serial Number	Borehole Depth (m)	Depth of Lowest Thermistor (m)	Elevation of Lowest Thermistor (m)
VT1	4773	5.9	5.8	293.09
VT2	4774	7.0	7.0	291.84

Pore pressure in the TSCA is monitored with the use of VWPs. These VWPs have been installed in three locations on the TSCA, with each location consisting of a pair of nested instruments, the top VWP records pore pressure in the tailings, while the deeper instrument monitors the pore pressure near the bedrock or native soil. Installation details of the VWPs is provided in Table 3.5.

Table 3.5 VWP Installation Details

Instrumentation Identification	Serial Number	Borehole Depth (m)	Depth of Piezometer (m)	Elevation of Piezometer (m)
VB1	52115	6.4	4.95	293.16
	52116		5.95	292.16
VB2	52117	6.1	4.8	293.19
	52118		5.8	292.19
VB3	52119	7.0	5.7	292.78
	52120		6.7	291.78

Settlement of the TSCA is assessed by recording changes in the instrumentation pipes, casing stickups, and angles at the monitoring wells, thermistors and VWPs. During each monitoring event, the casing and pipe stick up is measured, and any changes in pipe angle is recorded. Pipe and casing stick up details at the time of instrument installation are listed in Table 3.6.

Table 3.6 Instrumentation Stick-Up Details

Borehole Identification	Type of Installation	Pipe		Casing	
		Stickup Length (m)	Top Elevation (masl)	Stickup Length (m)	Top Elevation (masl)
MW1	Monitoring Well	0.87	299.60	1.00	299.73
MW2	Monitoring Well	0.87	299.83	0.96	299.92
VB1	VWP	0.73	298.84	1.00	299.11
VB2	VWP	0.60	298.59	0.87	298.86
VB3	VWP	0.62	299.10	0.99	299.47
VT1	Thermistor String	0.20	299.09	1.00	299.89
VT2	Thermistor String	0.35	299.19	1.00	299.84

3.4 SNP

The objective of the SNP is to monitor surface and groundwater quality around the GLG Sites following criteria outlined in the Phase I LTM Plan (Stantec, 2018a). Additional modifications to the program were to be made based on results from the Year 1 and 2 LTM reports (Stantec, 2018a). The WL, MV2016LB-0006 (MVLWB, 2017) has been interpreted to require four yearly sampling events, or monthly sampling events during periods of flow.

The SNP at the GLG Sites includes three sampling groups including:

- SNP 2016-7, including SNP 2016-7a, SNP 2016-7b, SNP 2016-7c, and SNP 2016-7d, refers to groundwater monitoring wells around the perimeter of the TSCA to assess that the operation of this area does not impact the surrounding environment
- SNP 2016-8, including SNP 2016-8a and SNP 2016-8b, refers to the monitoring of the surface water runoff from the TSCA. Monitoring stations are located between the TSCA and Gordon Lake in the direction of flow to monitor any changes in water quality from the discharge
- SNP 2016-11 includes confirmatory surface water samples from Burnt Island (2016-11a), Camlaren (2016-11b1, 2016-11b2, 2016-11b3, 2016-11b4, and 2016-11c), Kidney Pond (2016-11d), Treacy (2016-11e), and West Bay (2016-11f), as outlined in the Construction and Post-Construction Monitoring Plan Section 7.3.4.1 (Stantec, 2018b). This monitoring occurs downgradient of areas with remedial excavations, with the purpose of understanding the performance of the remedial activities

Sampling specification for SNP sites are summarize in Table 3.7.

3.4.1 Groundwater

The SNP includes monitoring wells MW3 (SNP 2016-7a), MW4 (SNP 2016-7b), MW5 (SNP-2016-7c), and MW6 (SNP 2016-7d). However, for continuity of discussion, monitoring wills MW1 and MW2 are discussed alongside the SNP 2016-7 stations. The SNP stations are located around the perimeter of the TSCA and are used to measure any impact of the TSCA on the surrounding groundwater. Monitoring wells MW1 and MW2 were installed in the TSCA itself and are used to monitor water levels and chemistry within the containment area.

3.4.2 Surface Water

The SNP includes both discharge water from the TSCA (SNP 2016-8, n = 2) and surface water from Gordon Lake in the receiving environment of the six GLG mines sites (SNP 2016-11, n = 9).

Table 3.7 SNP Sampling Locations, LTM Sampling Frequency, and Analytical Schedule

Description	SNP Station	Location/ Figure (Appendix A)	LTM Sampling Frequency	Parameters
Station 7 Monitoring Well Locations at TSCA	2016-7a	Camlaren/Figure A.3	Monthly during periods of flow[1]	• Nutrients[2] • Standard[3] • Major Ions[4] • Solids[5] • Total Metals[6] • PHCs[7] • *In situ* field parameters[8]
	2016-7b			
	2016-7c			
	2016-7d			
Station 8 Discharge Locations at TSCA	2016-8a	Camlaren/Figure A.3	Monthly when Water is present[3]	• Nutrients[2] • Standard[3] • Major Ions[4] • Solids[5] • Total Metals[6] • PHCs[7] • *In situ* field parameters[8]
	2016-8b			
Station 11 Surface Water Sample Locations (downgradient of significant excavation areas)	2016-11a	Burnt Island/Figure A.2	Adjusted from biannual to monthly to align with groundwater sampling[3]	• Nutrients[2] • Standard[3] • Major Ions[4] • Solids[5] • Total Metals[6] • PHCs[7] • *In situ* field parameters[8]
	2016-11b1	Camlaren/Figure A.3		
	2016-11b2			
	2016-11b3			
	2016-11b4			
	2016-11c	Zenith Island/Figure A.3		
	2016-11d	Kidney Pond/Figure A.5		
	2016-11e	Treacy/Figure A.8		
	2016-11f	West Bay/Figure A.10		

Notes:

[1] based on interpretation of original version of the water licence, MV2016L8-0006 (MVLWB, 2017)

[2] total ammonia, total nitrate + nitrite, total phosphorous, orthophosphate, and total organic carbon.

[3] pH, temperature, and conductivity.

[4] alkalinity, calcium, chloride, hardness, magnesium, potassium, sodium, and sulphate.

[5] total suspended solids (TSS) and total dissolved solids (TDS).

[6] total elemental analysis by ICP-Metal Scan of: ICP-MS 24 element scan: includes all elements in Total Metals plus antimony, arsenic, barium, bismuth, cesium, chromium, lithium, thallium, titanium, uranium, and vanadium.

[7] Extractable Hydrocarbons, and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX).

[8] temperature, specific conductivity, total dissolved solids, pH, turbidity, dissolved oxygen, oxidation reduction potential

3.4.3 Field Methods

3.4.3.1 *Groundwater Sampling*

Groundwater sampling was completed in general accordance with CCME Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment – Volume 3 Suggested Operating Procedures (CCME, 2016). The following protocols were used during groundwater sampling:

- Visual assessment of the condition of the groundwater monitoring well was completed to assess settlement/frost jacking, disturbed surface seals, missing well caps, and/or any other damage present
- Combustible and ionizable headspace vapour concentrations within the monitoring well were measured using an RKI Eagle 2™ (or equivalent) operated in the methane elimination mode
- The depth to light non-aqueous phase liquids (LNAPL), if present, the depth to groundwater, and total well depth were measured using an interface probe. The highest point of the groundwater monitoring well casing was used as a reference point to collect these measurements
  - If LNAPL was identified, LNAPL presence was confirmed using a bailer, and the LNAPL thickness in the bailer was recorded. The LNAPL was then purged and disposed of (off-site), and the groundwater monitoring well was not sampled
  - In the absence of LNAPL, groundwater sampling was completed following purging
  - If the groundwater monitoring well was observed to be dry, or groundwater was observed to be frozen, the groundwater monitoring well was not sampled
- The groundwater monitoring well was purged of stagnant groundwater using a peristaltic pump. In-situ field measurements (temperature, conductivity, specific conductance, pH, oxidation-reduction potential [ORP], turbidity, and dissolved oxygen [DO]) were collected using a YSI™ multi-parameter water quality meter (or equivalent)
  - Purging continued until the *in situ* field measurements stabilized or until five well volumes had been purged after which the groundwater monitoring well was sampled
  - If the groundwater monitoring well was purged dry and if limited to no recharge of the groundwater monitoring well occurred within 24 hours, groundwater sampling was not completed
  - If the groundwater monitoring well was purged dry and sufficient recharge of the groundwater monitoring well occurred within 24 hours, groundwater sampling was completed
- Groundwater samples were collected using low-flow sampling methodology using high density polyethylene tubing dedicated to each groundwater monitoring well. Samples were collected in laboratory supplied bottles and selectively analyzed for the parameters presented in Table 3.7. Groundwater samples for analysis of dissolved parameters were filtered through a 0.45 micron inline field filter prior to preservation as per laboratory specification (if applicable)
- Purge water was discharged to ground surface at a distance of greater than 10 m from the groundwater monitoring well after sampling

3.4.3.2 *Surface Water Sampling*

Surface water sampling was completed in general accordance with CCME *Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment – Volume 3 Suggested Operating Procedures* (CCME, 2016). Surface water samples were collected from surface water sampling locations as grab samples. The following protocols were used when sampling surface water:

- A swing sampler was used to collect samples from the middle of the water column, with the sample facing upstream, where applicable. Care was taken to minimize sediment disruption and limiting the capture of floating debris.
- Laboratory supplied sample bottles were filled directly from the swing sampler with exception of laboratory supplied dissolved parameters bottles (where applicable) which were field-filtered surface water using a 0.45 micron filter prior to preservation, as per laboratory specification

A YSI™ multi-parameter meter (or equivalent) was used to record *in situ* field parameters (i.e., temperature, conductivity, SPC, pH, ORP, turbidity, and DO) at each sample location. Sample location coordinates were recorded using an iPhone mapping application (Gaia GPS). Samples were collected in laboratory supplied bottles and selectively analyzed for the parameters presented in Table 3.7.

3.4.4 Regulatory Framework and Site Criteria

Regulatory guidelines used during the Phase I LTM Plan include Canadian Council of Ministers of the Environment (CCME) Canadian Environmental Quality Guidelines (CEQG) and Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (FIGQG).

Based on the on the CCME guidance, the land use has been interpreted to be agricultural as the Site is no longer occupied and is subject to natural ecological succession. Current and future human use of the Site is limited to recreational activity and possibly country foods harvesting (e.g., hunting, fishing, gathering vegetation for consumption, etc. (Government of Canada, 2019)).

The CCME CEQG provide limits for contaminants in surface water and are intended to maintain, improve, and/or protect environmental quality and human health at contaminated sites in general. Environmental water quality guidelines are derived using toxicological data to determine the threshold level to the most sensitive receptors. The analytical results of surface water samples collected as part of the Phase I LTM Plan will be compared to the CCME Freshwater Aquatic Life (FAL) long-term guidelines (CCME, 2024).

The FIGQG were developed under the Federal Contaminated Sites Action Plan and are a tiered approach to evaluating groundwater quality. For the purposes of the GLG Sites Phase I LTM, monitoring results have been compared to the Tier 1 guidelines for agriculture land use for coarse grained soil types (Govenment of Canada, 2016).

3.5 Quality Assurance and Quality Control (QA/QC)

Best practice Standard Operating Procedures (SOPs), as part of Quality Management System (QMS), includes work procedures and instructions that are developed for technical work. K'alo-Stantec's QMS and associated SOPs allow control of the quality of work throughout the project program. Applicable K'alo-Stantec SOPs were reviewed by field personnel prior to mobilizing to site.

Samples were submitted to ALS Environmental (ALS) in Yellowknife, NT which is accredited by the Canadian Association for Laboratory Accreditation (CALA) and the Standards Council of Canada (SCC).

3.5.1 Field QA/QC

During sampling, efforts were made to collect representative samples. For each sampling event, K'alo-Stantec collected QA/QC samples, including two blind field duplicate (BFD) samples, one each to represent a surface water and a groundwater sample, one field blank representing the groundwater sample, and one blank consisting of only samples for PHCs.

3.5.2 Sample Management and Quality Control

The following field QA/QC procedures were followed during the field program:

- Equipment was calibrated according to manufacturer specifications either by the equipment rental company or by K'alo-Stantec personnel prior to fieldwork
- New nitrile gloves were used for collection of each sample
- The equipment (water level tapes, swing samplers, YSI™) used for water sampling was rinsed with deionized water between each sample
- Samples were collected into distinctly labeled laboratory provided sampling containers
- Samples were stored on ice in coolers upon collection and a temperature of less than 10^{o}C was maintained in the samples prior to submission to the ALS depot in Yellowknife, NT

3.5.3 Sampling Quality Control

One laboratory provided trip blank was submitted for every sampling event, totaling four samples over the course of the 2024 LTM program. Additionally, one field blank was submitted for every sampling event, totaling four samples over the course of the 2024 LTM program. Both trip and field blanks were only analyzed for PHCs and BTEX.

Two BFD samples were collected during each SNP sampling event, totaling eight samples during the Year 6 LTM program. One BFD was collected for the surface water monitoring program and one BFD was collected for the groundwater monitoring program. Data validation of the analytical results included the review of the data quality indicators (e.g., precision, accuracy, representativeness, comparability, and

completeness). The precision of the data was quantified as the relative percent difference (RPD), calculated with the following equation:

$$RPD = \left[\frac{S_1 - S_2}{S_3}\right] \times 100$$

Where:

RPD = relative percent difference
S_1 = original parent sample concentration
S_2 = BFD sample concentration
S_3 = average concentration = (S_1 + S_2)/2

The general industry standard for acceptable RPD in water analyses is less than or equal to 40% for field duplicated groundwater and surface water samples (CCME, 2016). RPDs are only considered to be an accurate when parameter concentrations in both the parent sample and its BFD are five times greater than the limit of detection (LOD) and are only calculated under such conditions. Where the analytical result for either sample is less than five times the LOD, no conclusion can be made with respect to the data reproducibility.

3.5.4 Laboratory QA/QC

ALS analyzed and assessed method blanks, certified reference materials, method spikes, and surrogate recoveries to monitor data quality. The QA/QC methods employed, including matrix spikes, method blanks, replicates, reference criteria, and surrogate recoveries, were reviewed to assess the reliability of the sample results. Copies of the certificates of analyses are provided in Appendix F.

4 Year 6 Long-Term Monitoring Program Results

4.1 Geotechnical Inspection

The geotechnical inspection of the Camlaren TSCA was completed on July 16, 2024, by K'alo-Stantec Engineers Steve Bundrock, P.Eng. (NAPEG) and Steffen Karl, P.Eng. (NAPEG). The visual inspections were performed on foot and aerially via helicopter with the intent to visually identify dam safety concerns, potential signs of distress in the structures (such as cracking, settlement, slumping, heave, erosion, or significant seepage), and to compare 2024 observations with historical records. No subsurface investigations, material sampling, or testing was performed. The Geotechnical Inspection report is provided under separate cover (K'alo-Stantec, 2024).

Two new dam safety deficiencies were identified during the 2024 GSI including fresh animal burrows and fresh, minor erosion. K'alo-Stantec recommended that animal burrows are backfilled with granular material with continued monitoring for animal activity in subsequent GSIs, and animal deterrents be installed to prevent future damage to the TSCA. Minor erosion is recommended to be monitored for worsening conditions with consideration to implement a more permanent solution, such as flattening embankment slopes, providing additional coarse material, or removing material that contributes to channelized flow (K'alo-Stantec, 2024).

4.2 Visual Monitoring Results

The visual monitoring component was conducted monthly during open water season, as interpreted from the WL (MVLWB, 2017). Visual monitoring was conducted on June 12 to 14, July 10 and 11, August 20 to 22, and September 11 and 12 of 2024.

4.2.1 Backfilled / Covered Area Monitoring

Backfilled and covered areas identified for the Year 6 LTM were visually inspected for settlement, erosion and structural stability (e.g., deformation and cracking) where applicable. Observations related to visual monitoring sites defined in the Phase I LTM (Stantec, 2018a) and outlined in Table B.1 of Appendix B, inspection reports are found in Appendix D below, and visual results are summarized in Table 4.1.

Table 4.1 Summary of Backfilled/Covered Areas Monitoring Results

Site Name	Hazard Name	Area Description	Figure in Appendix A / Photograph # in Appendix C	Monitoring Results
Burnt Island	Tailings	Covered with granular fill	Figure #: A.2, A.2.1/Photo #: 6 to 9	Small rills observed throughout the area. One animal burrow observed
Camlaren	CAM_SO_01	PHC impacts excavated and covered with granular fill	Figure #: A.3, A.3.1/Photo #: 18	Evidence of animal burrowing
	CAM_SO_03	PHC impacts excavated and covered with granular fill	Figure #: A.3, A.3.1/Photo #: 15	No signs of erosion observed
	CAM_SO_04	Metals impacts excavated and covered with granular fill	Figure #: A.3, A.3.1/Photo #: 16	Signs of overland flow, and animal burrowing
	CAM_SO_05	PHC impacts excavated and covered with granular fill	Figure #: A.3, A.3.1/Photo #: 19	Evidence of staining
	CAM_SO_07	Metals impacts excavated and covered with granular fill	Figure #: A.3, A.3.1/Photo #: 17	No signs of erosion observed
	CAM_SO_08	Metals impacts excavated and covered with granular fill	Figure #: A.3, A.3.1/Photo #:21	No signs of erosion observed
	CAM_SO_12	Metals impacts excavated and covered with granular fill	Figure #: A.3, A.3.1/Photo #: 24	No signs of erosion observed
	CAM_SO_14	PHC impacts excavated and covered with granular fill	Figure #: A.3, A.3.2/Photo #: 23	No signs of erosion observed
	CAM_SO_20	Metals impacts excavated and covered with granular fill	Figure #: A.3, A.3.2/Photo #: 22	No signs of erosion observed
Zenith Island	CAM_SO_23	Metals impacts excavated and covered with granular fill	Figure #: A.3, A.3.3/Photo #: 47, 48	No signs of erosion observed

Site Name	Hazard Name	Area Description	Figure in Appendix A / Photograph # in Appendix C	Monitoring Results
Kidney Pond	KID_SO_07	Co-mingled metals and PHC impacts excavated and covered with granular fill	Figure #: A.5, A.5.2/Photo #: 52	Evidence of overland water flow
	KID_SO_10	PHC impacts excavated and covered with granular fill	Figure #: A.5, A.5.2/Photo #: n/a	Evidence that ponded water was previously present at this location was observed. However, location was dry at the time of inspection.
	KID_SO_11	Co-mingled metals and PHC impacts excavated and covered with granular fill	Figure #: A.5, A.5.2/Photo #: n/a	Evidence of overland water flow
	KID_WR_01	Waste rock excavated and area covered with granular fill	Figure #: A.5, A.5.2/Photo #: 53, 54	Evidence of overland water flow and staining observed
Treacy	TRE_SO_01	Metals impacts excavated and partially covered with granular fill and armour stone	Figure #: A.8, A.8.1/Photo #: 59, 60	No signs of erosion observed
	TRE_SO_02	PHC impacts excavated and partially covered with granular fill and local material	Figure #: A.8, A.8.1/Photo #: n/a	No signs of erosion observed
	East Trench	Trench backfilled with granular fill	Figure #: A.8, A.8.1/Photo #: 58	No signs of erosion observed
	West Trench	Trench backfilled with granular fill	Figure #: A.8, A.8.1/Photo #: 61, 62	No signs of erosion observed

4.2.2 Mine Opening Monitoring

Closures of mine openings identified for the Year 6 LTM were visually assessed for settlement, erosion, and structural stability (e.g., deformation and cracking), where applicable. Observations related to visual assessment sites defined in the Phase I LTM (Stantec, 2018a) and outlined in Table B.1 of Appendix B, inspection reports are found in Appendix D below, and visual results are summarized in Table 4.2.

Table 4.2 Summary of Mine Opening Monitoring Results

Site Name	Hazard Name	Area Description	Figure in Appendix A / Photograph # in Appendix C	Monitoring Results
Burnt Island	Mine Shaft	The shaft was closed with a polyurethane foam plug, reinforced concrete cap and covered with granular fill	Figure #: A.2, A.2.2 Photo #: 5	Small depression observed southwest of the shaft
	Portal	The portal opening and mine tunnel were closed with granular fill	Figure #: A.2, A.2.3 Photo #: 3, 4	Deep pockets noted at top of backfilled area. Estimated > 0.3m deep x 1.5 m wide
Kidney Pond	Portal	The portal opening and mine tunnel were closed with granular fill	Figure #: A.5, A.5.2 Photo #:51	Evidence of overland water flow (rills) and some settling observed
West Bay	Open Pit	The pit was barricaded with a perimeter fence	Figure #: A.10, A.10.1 Photo #: 66, 67, 68	Some large openings under the fence were observed during the 2024 site visits. The openings provide access to the open pit to both animals and humans

4.2.3 Moderate Risk Waste Rock Left in Place Monitoring

Moderate risk waste rock left in place was visually assessed. No visible signs of ARD related impacts were observed. Observations related to visual assessment sites defined in the Phase I LTM (Stantec, 2018a) and outlined in Table B.1 of Appendix B, inspection reports are found in Appendix D below, and visual results are summarized in Table 4.3.

Table 4.3 Summary of Results - Moderate Risk Waste Rock Left in Place Monitoring

Site Name	Hazard Name	Area Description	Figure in Appendix A/ Photograph ID in Appendix C	Monitoring Results
Burnt Island	BUR_WR_01	Waste rock resulting from trenching near the Old Mill Area	Figure #: A.2.4 Photo #: 10	No signs of ARD-related impacts were identified
Kidney Pond	KID_WR_01	Waste rock near Portal Area excavated and area covered with granular fill	Figure #: A.5, A.5.2 Photo #: 53, 54, 70	Minor rust-coloured staining observed
	KID_WR_03	Scattered waste rock near Portal Area	Figure #: A.5, A.5.2 Photo #: 55	No signs of ARD-related impacts were identified
West Bay	WES_WR_01	East waste rock pile south of open pit	Figure #: A.10, A.10.1 Photo #: 64	No signs of ARD-related impacts were identified
	WES_WR_02	West waste rock pile south of open pit	Figure #: A.10, A.10.1 Photo #: 65	No signs of ARD-related impacts were identified

Minor rust-coloured staining was observed at the Kidney Pond location KID_WR_01. However, impacts associated with the observed staining were not identified in the downgradient surface water sampling location, SNP2016-11d (as discussed in Section 4.4.3, below). It should be noted that concentrations of aluminum and iron were reported above the applied guidelines in the surface water sample collected at SNP2016-11d during the August 2024 sampling event. However, as discussed in Section 4.4.3 below, these exceedances are likely attributable to an elevated TSS concentration in the collected sample.

4.3 TSCA Performance

The TSCA performance was monitored during four separate sampling events that occurred monthly during open water season, as interpreted from the WL (MVLWB, 2017) including June 12 to 14, July 10, 11, 16, and 20, August 20 to 22, and September 11 and 12 of 2024.

4.3.1 Visual Inspection

Visual inspections of the TSCA were completed monthly during the 2024 Year 6 LTM program in June, July, August, and September by K'alo-Stantec personnel. During these inspections, some settling and erosion was observed. A comprehensive account of these issues is described in the GSI provided under separate cover (K'alo-Stantec, 2024) and provided in Appendix G. Additional issues were observed during the September 2024 visual inspection, including several animal burrows of various sizes, ranging from small rodents to bear burrows and exposed liner. The issues observed were documented with photographs and are presented in photographs numbered 25, and 27 to 32, in Appendix C.

4.3.2 Thermistors

Data was downloaded from the two thermistors, VT1 and VT2 by K'alo-Stantec on July 20, August 22, and September 11, 2024. An attempt was made to download data on June 14, July 11, and July 16, 2024; however, data downloads were not successful on these dates due to software and hardware issues. During the July 2024 download attempts, the wired connections were checked, the VT1 battery pack was reconnected to the instrument and batteries were replaced, and battery life in VT2 was checked and found to be at 90%. The batteries had been previously replaced on September 4, 2020. K'alo-Stantec automation specialists were consulted and the download and wiring issues were fixed. As a result of the repairs, data was able to be downloaded during the August and September site visits.

Downloaded data from VT2 spanned from September 14, 2018 to September 11, 2024 and data from VT1 spanned from September 14, 2018 to September 18, 2022 and July 16 to September 11, 2024. The data gap in VT1 could be attributed to a loose wire connection, possibly caused by animal interaction with the instrument casing. Annual thermistor data collected from VT1 and VT2 are presented in Figure 4.1 to Figure 4.5 and Figure 4.6 to Figure 4.11 respectively. The locations of the thermistors are depicted on Figure A.3.1 in Appendix A.

The thermistor profiles indicate an active zone below approximately 4 mbgs. The depth of the active zone appears to have remain relatively constant over the installation period of the VT2. Assuming the active zone has also remained constant in the area of VT1, the data recorded in 2024 appears to be biased high (Figure 4.5). This may indicate that the thermistor became damaged in 2022 when the instrument ceased recording data due to a wire connectivity issue.

Figure 4.1 VT1-2019 Monthly Average Temperature Profiles

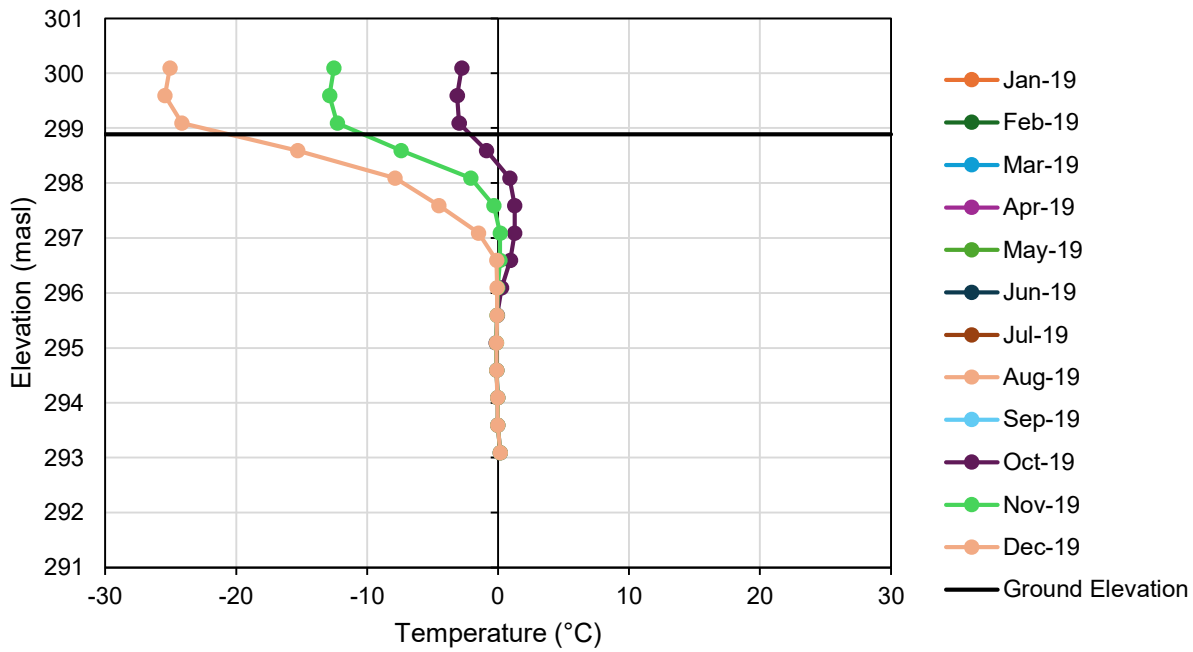


Figure 4.2 VT1-2020 Monthly Average Temperature Profiles

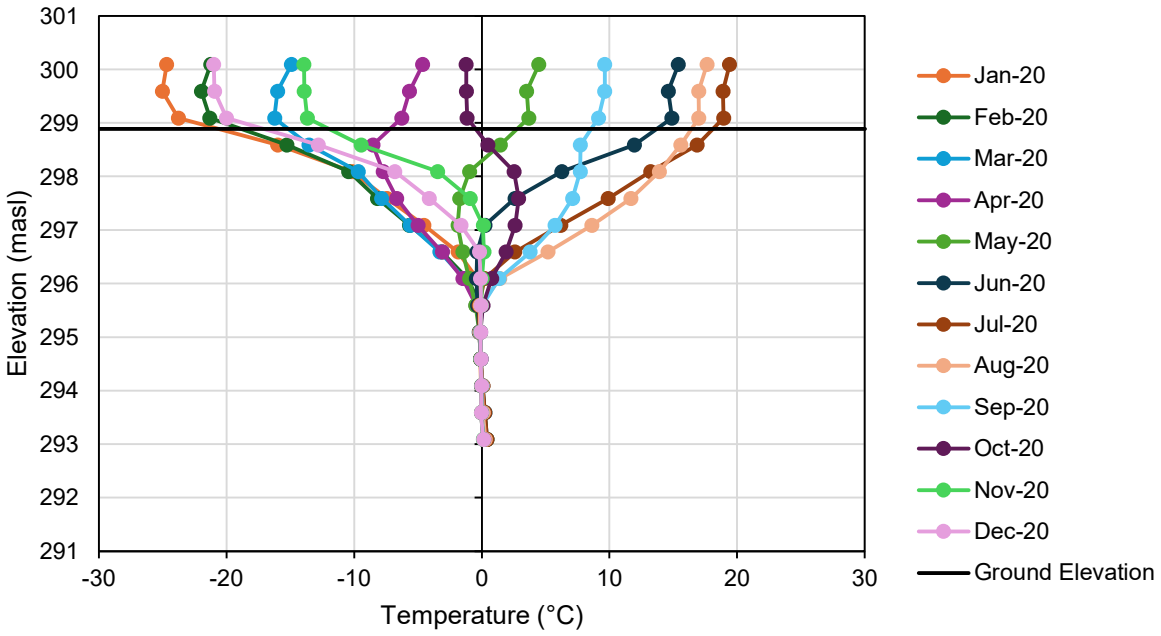


Figure 4.3 VT1-2021 Monthly Average Temperature Profiles

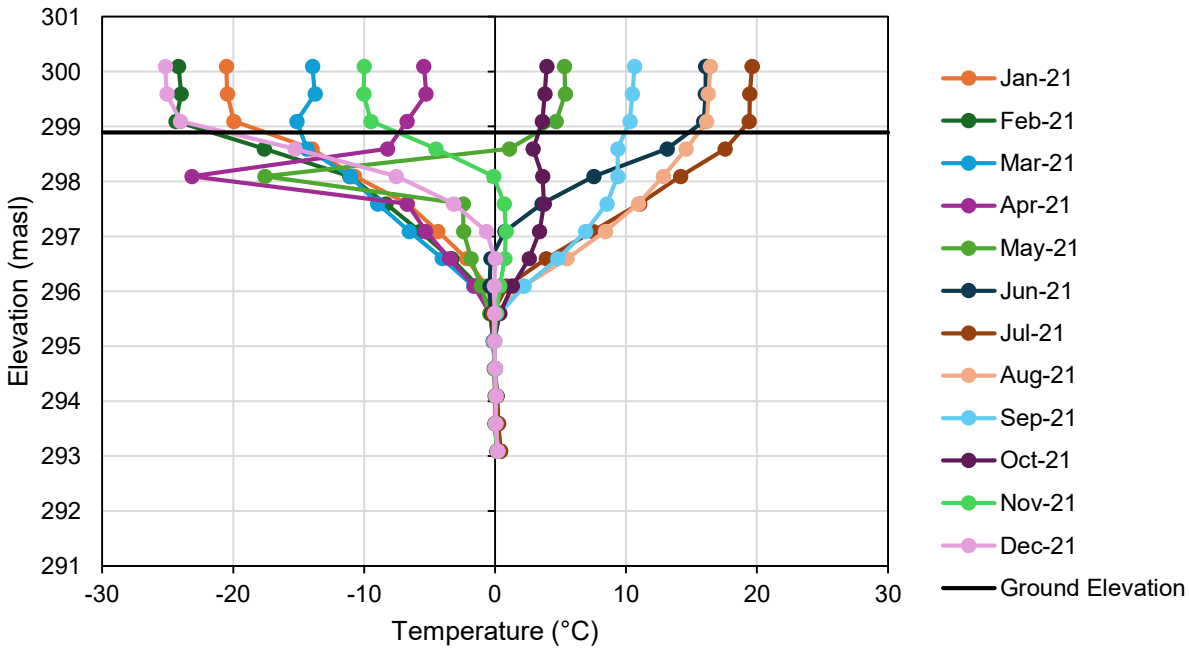


Figure 4.4 VT1-2022 Monthly Average Temperature Profiles

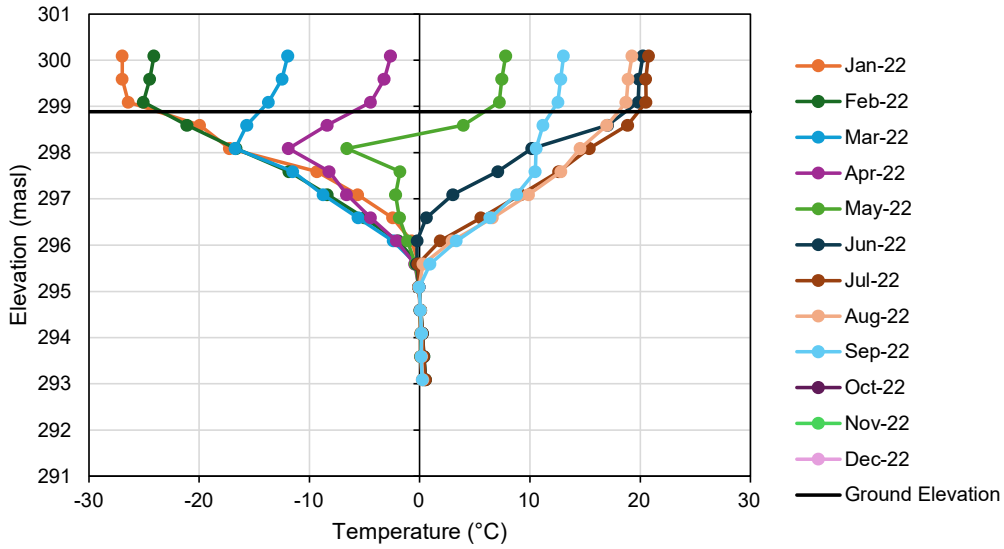


Figure 4.5 VT1-2024 Monthly Average Temperature Profiles

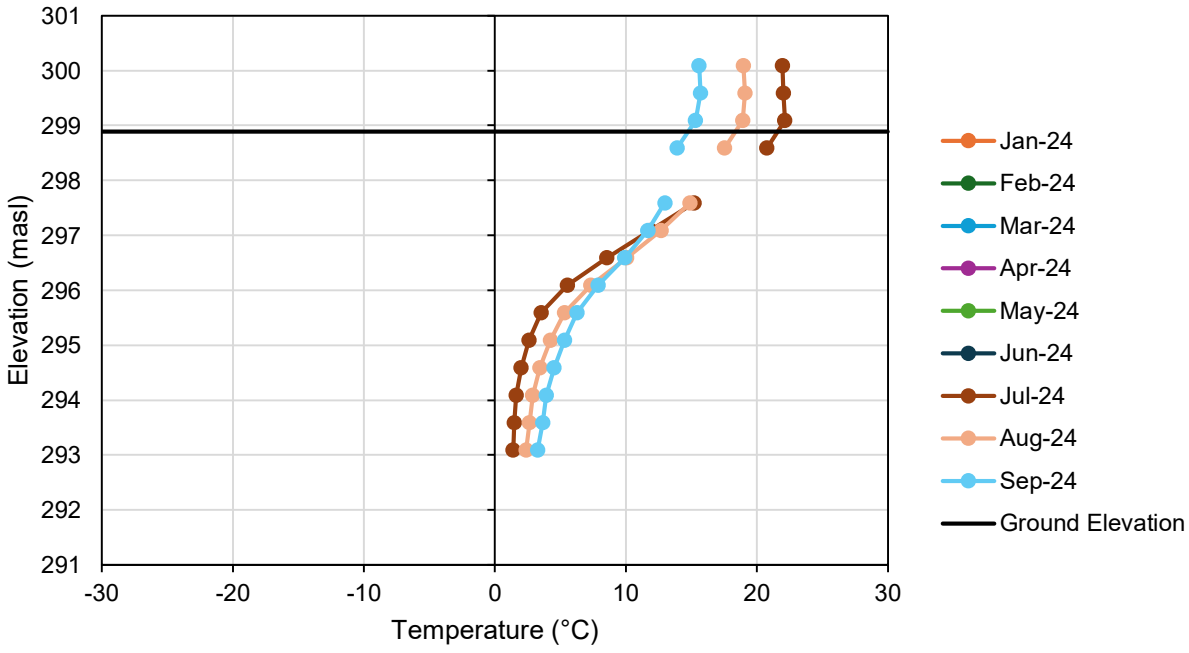


Figure 4.6 VT2-2019 Monthly Average Temperature Profiles

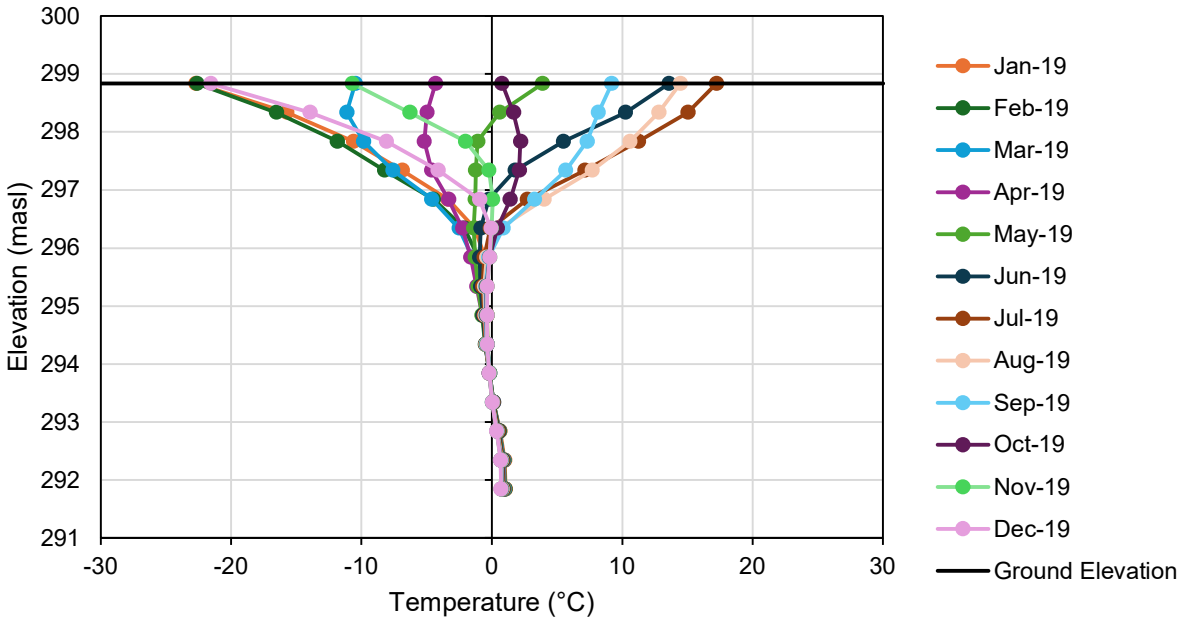


Figure 4.7 VT2-2020 Monthly Average Temperature Profiles

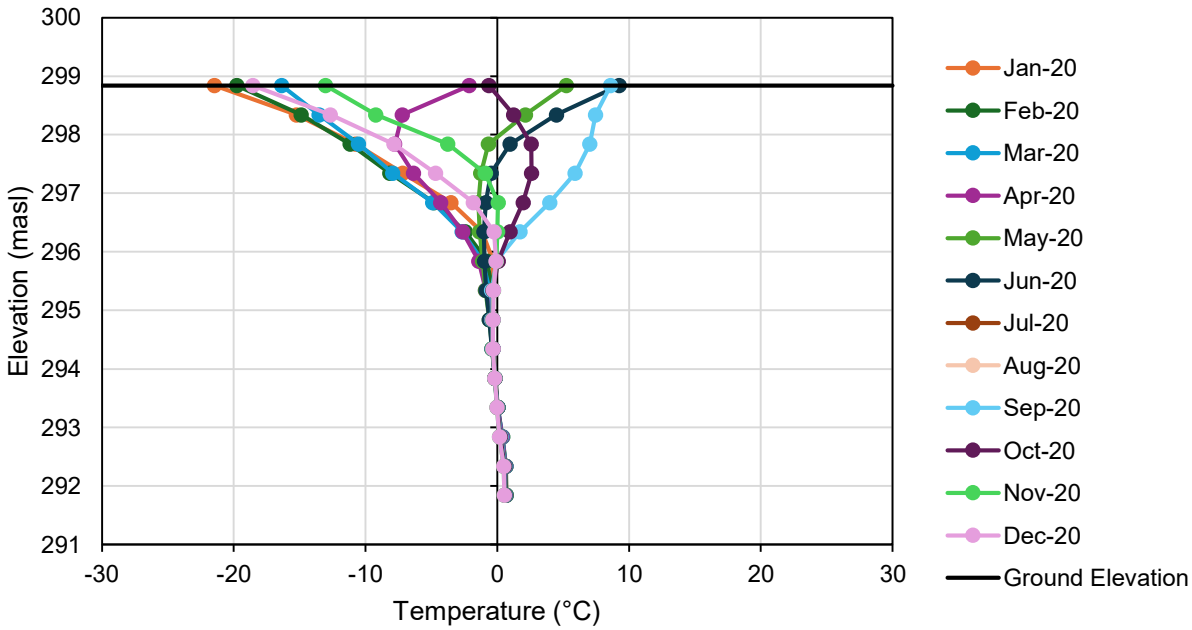


Figure 4.8 VT2-2021 Monthly Average Temperature Profiles

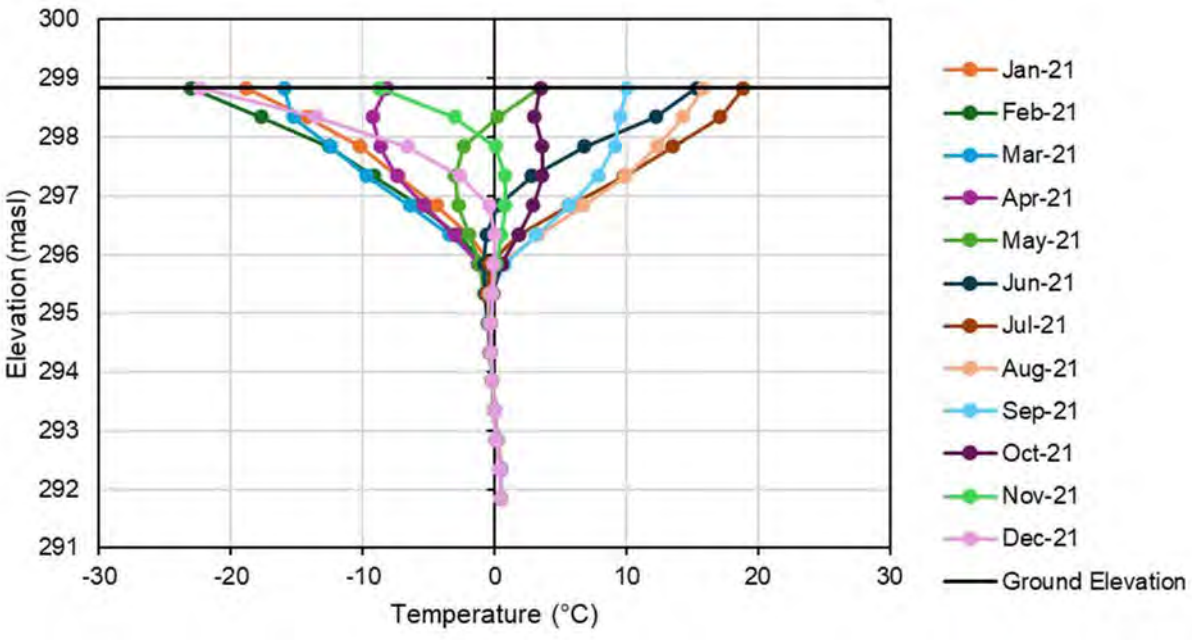


Figure 4.9 VT2-2022 Monthly Average Temperature Profiles

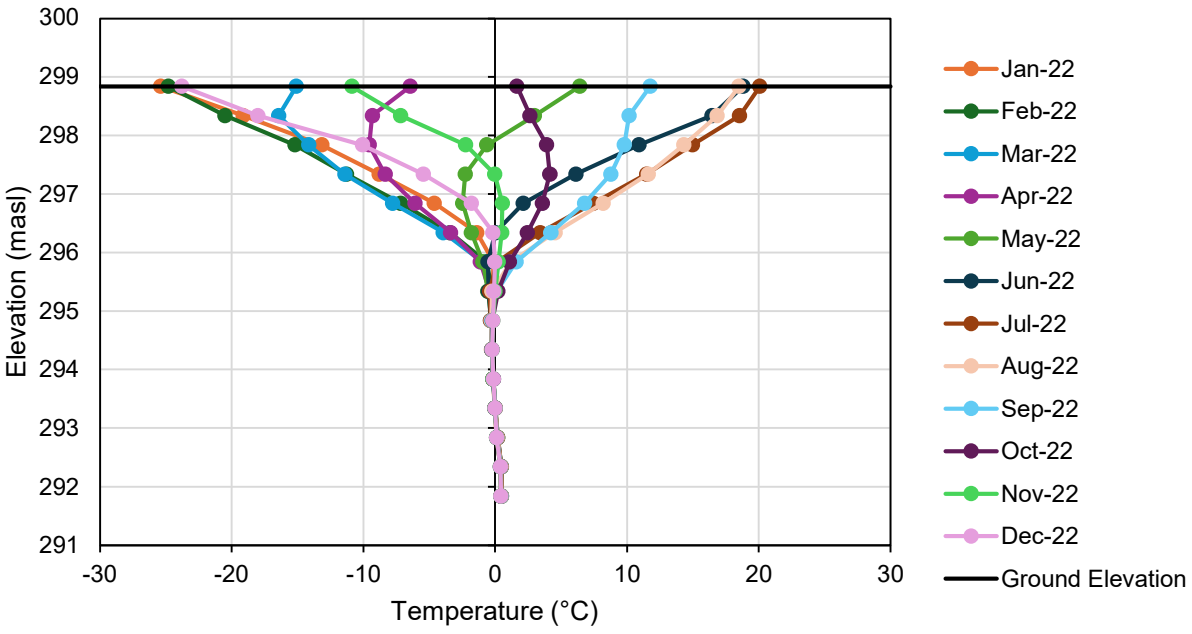


Figure 4.10 VT2-2023 Monthly Average Temperature Profiles

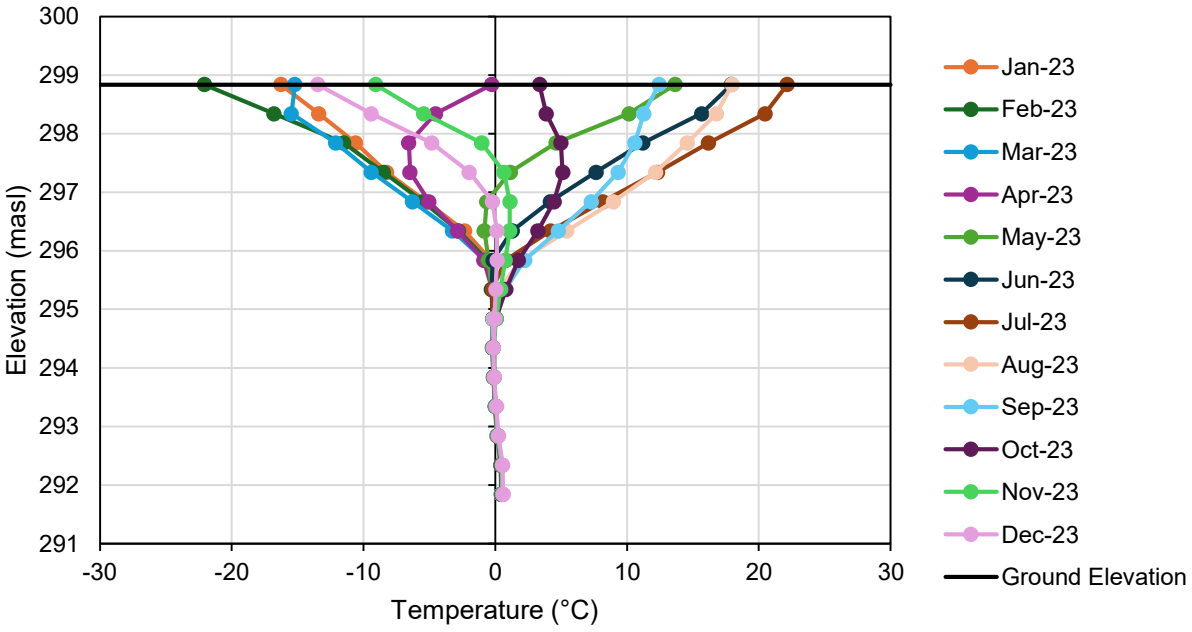
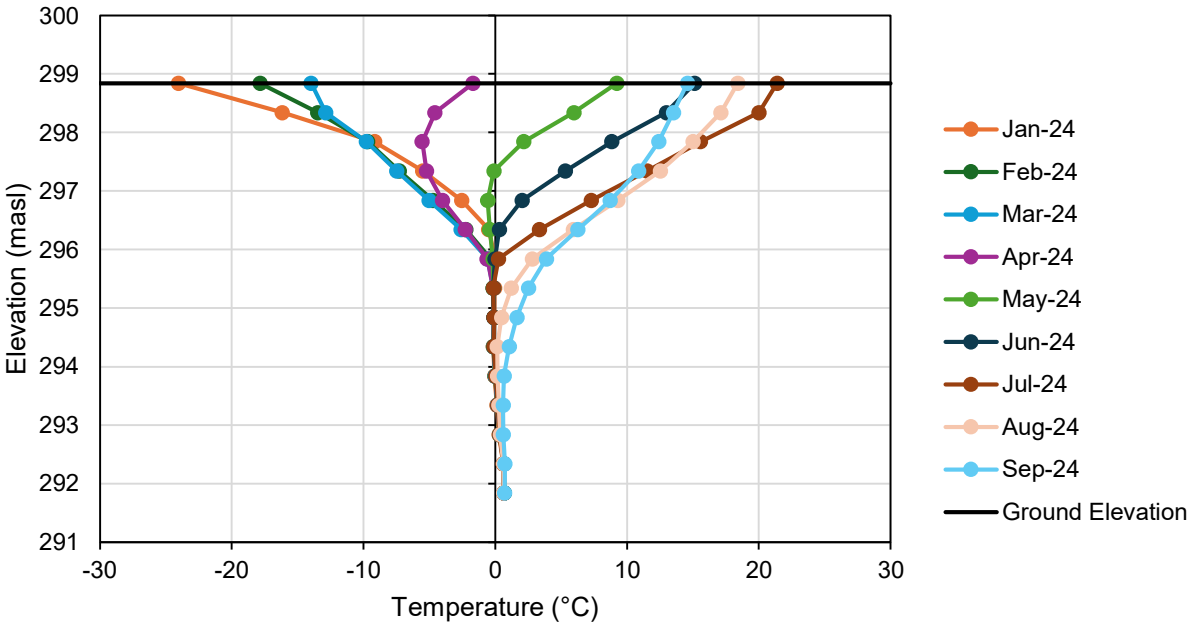


Figure 4.11 VT2-2024 Monthly Average Temperature Profiles



4.3.3 Vibrating Wire Piezometers

Data was downloaded from the six VWPs installed at the three locations, VB1, VB2, and VB3, by K'alo-Stantec on July 20, August 22, and September 11, 2024. An attempt had been made to download data on June 14, July 11, and July 16, 2024; however, data downloads were not successful on these dates due to software and hardware issues. During the July 2024 instrument inspections, the wired connections were checked, and battery life was checked and found to be at 90%. These batteries had been previously replaced on September 4, 2020 by K'alo-Stantec field personnel. Also in July 2024, K'alo-Stantec automation specialists were consulted from the Site and the hardware and software issues were fixed.

Downloaded data spanned from September 14, 2018 to September 11, 2024 for the VWPs except for the top piezometer in VB2 (serial number VW52117). The data log in this piezometer was missing values from September 4, 2020 to July 16, 2024, indicating a wire connectivity issue that arose during the previous battery replacement.

Piezometer readings are reported as B units and are converted to pressure values and then to total head as reported in the Gotechnical Inspection (K'alo-Stantec, 2024) provided in Appendix G.

The total head values were plotted over duration of data collection for each VWP pair, as presented in Figure 4.12 (VB1), Figure 4.13 (VB2), and Figure 4.14 (VB3). The locations of the VWBs are depicted on Figure A.3.1 in Appendix A.

At each location, the top piezometer records pore pressures in the tailings, the bottom piezometer measures pore pressures near the bedrock or native soil. In general, the top and bottom piezometers follow similar trends over the recorded period.

Figure 4.12 Piezometric data (total head elevation) for the VB1 location (2018 – 2024)

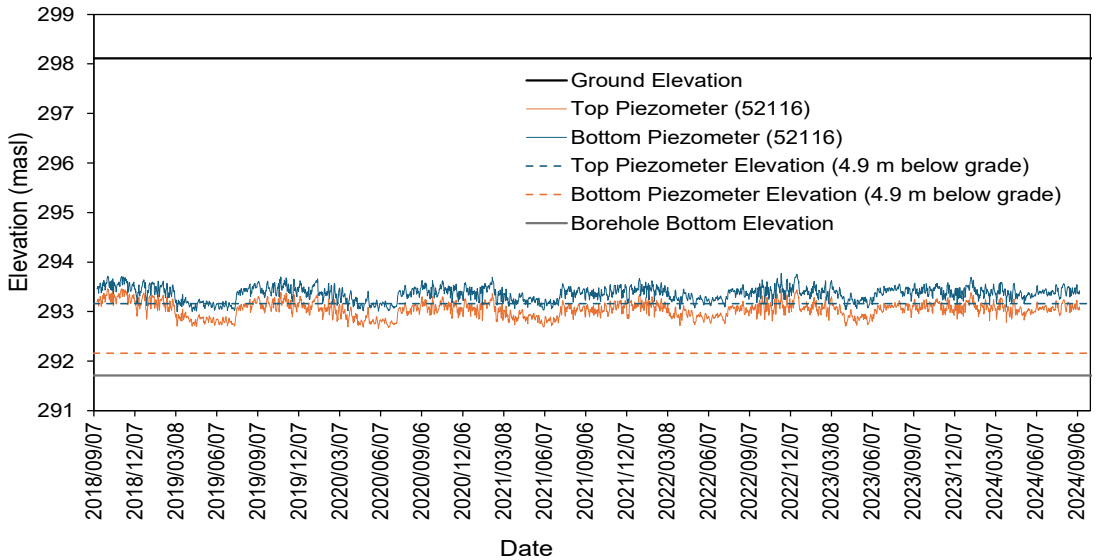


Figure 4.13 Piezometric data (total head elevation) for the VB2 location (2018 – 2024)

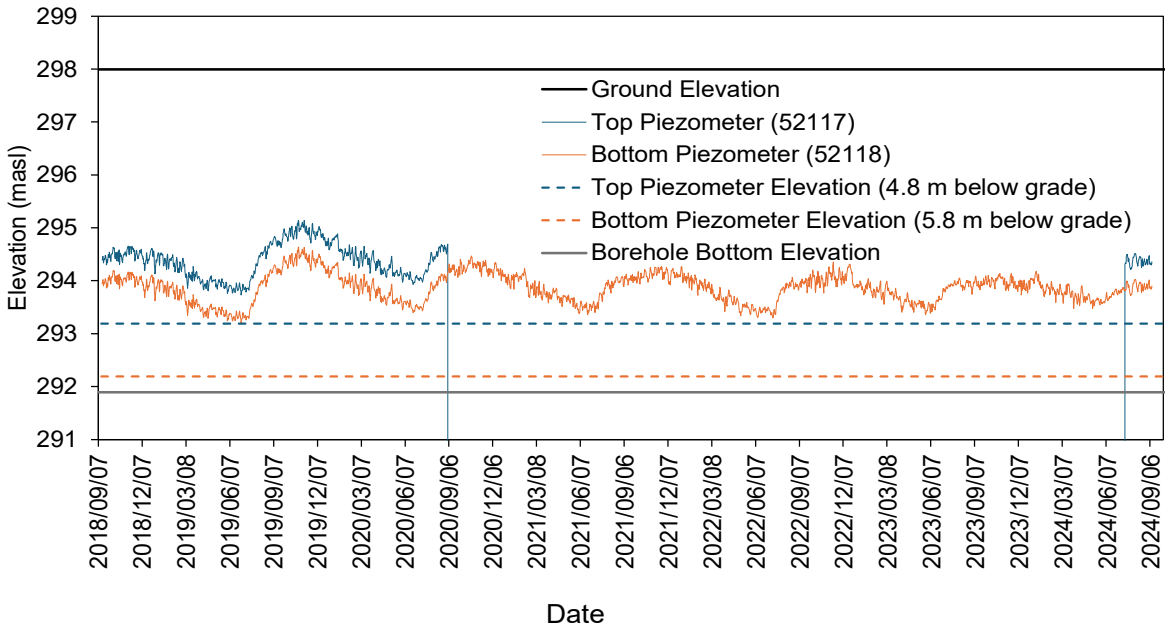
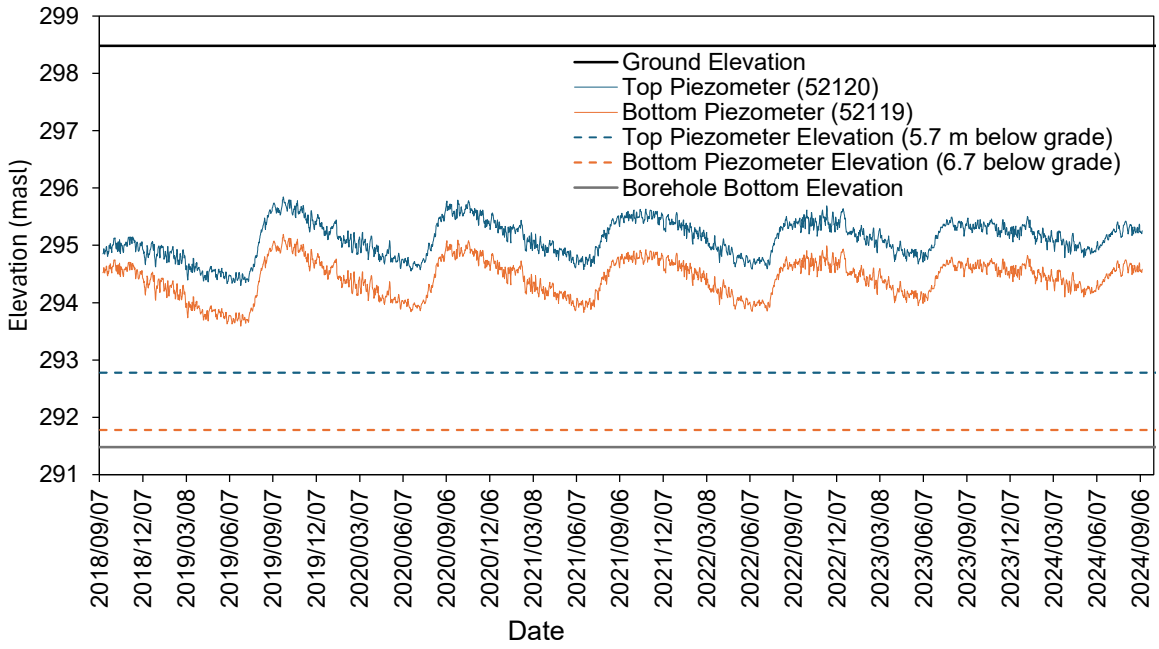


Figure 4.14 Piezometric data (total head elevation) for the VB3 location (2018 – 2024)



4.4 SNP

The SNP was executed during four separate sampling events that occurred monthly during open water season as interpreted from the MVLWB WL (MVLWB, 2017). Sampling dates included June 12 to 14, July 10, 11, 16, and 20, August 20 to 22, and September 11 and 12, 2024.

4.4.1 Groundwater Monitoring

The SNP includes monitoring wells MW3 (SNP 2016-7a), MW4 (SNP 2016-7b), MW5 (SNP-2016-7c), and MW6 (SNP 2016-7d). However, for continuity of discussion, and as discussed in Section 3.4.1, measurement and results from MW1 and MW2 are also discussed here. Sampling locations are depicted on Figure A.3.1 in Appendix A.

On June 12, 2024, a blockage in MW5 was observed during the initial field event. This blockage was caused by lodged bailer inside the well pipe approximately 0.75 m below the top of pipe. The bailer was removed on June 14, 2024, allowing K'alo-Stantec to measure the water level and sample groundwater. Monitoring well MW5 was measured to have low water levels and recovery during the four monitoring events in 2024. This resulted in the collection of partial samples in June, August, and September 2024, prioritizing total metals and general chemistry analyses. No sample was collected from MW5 in July 2024.

The blockage noted in MW1 during Years 2 and 3 of the LTM was not observed in Years 4, 5, or 6. A blockage was noted in MW2 during Years 4 and 5 of the LTM. Based on groundwater depth measurements (Table 4.5) taken in MW2 during Year 6 of the LTM, it appears that the blockage is no longer present.

Measurements of the well stick up and groundwater depths taken during the four monitoring sessions of 2024 are listed in Table 4.4.

Table 4.4 Year 6 LTM Monitoring Well Measurements

Monitoring Well ID	Surface Elevation (masl)	Monitoring Well Pipe Stickup (m)	Depth of Well (mbp)	Groundwater Depth (mbp)			
				June	July	August	September
MW1	298.73	0.91	6.15	5.41	5.14	5.07	5.04
MW2	298.96	0.93	8.08	5.82	5.56	5.01	5.10
MW3 (SNP 2016-7a)	292.41	0.78	7.89	2.21	2.26	2.37	2.35
MW4 (SNP 2016-7b)	294.52	0.55	4.62	2.43	2.97	3.22	2.60
MW5 (SNP 2016-7c)	296.58	0.81	5.51	4.96	5.28	5.32	5.39
MW6 (SNP 2016-7d)	295.45	0.67	6.16	2.40	2.51	2.55	2.70

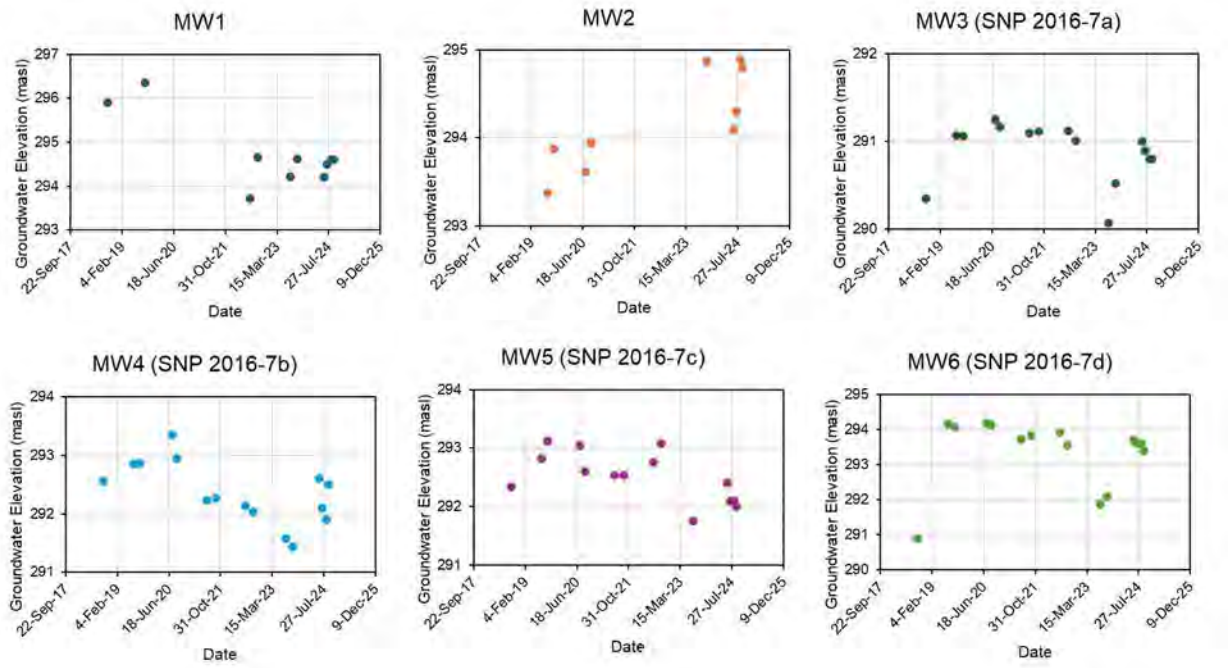
Note:
mbp = metres below top of pipe

Groundwater elevations measured in the six monitoring wells during the Year 6 LTM Program and historical groundwater elevation values are presented in Table 4.5 and plotted on Figure 4.15. The groundwater levels in the six monitoring wells have remained, for the majority of sampling events, within a 2 cm elevation, with the exception of the starting elevation in MW6 in 2019. Notable on the plots depicted on Figure 4.15 is the lower elevation measured in 2023, which was a particularly dry year in the area.

Table 4.5 Groundwater Elevations 2018 - 2024

	Groundwater Elevations (masl)					
Monitoring Date	**MW1**	**MW2**	**MW3 (SNP 2016-7a)**	**MW4 (SNP 2016-7b)**	**MW5 (SNP 2016-7c)**	**MW6 (SNP 2016-7d)**
September 16, 2018	295.9	Dry	290.35	292.56	292.34	290.9
July 8 - 10, 2019	Blockage	293.37	291.07	292.85	292.82	294.15
September 10 -11, 2019	296.35	293.87	291.06	292.86	293.12	294.07
July 17, 2020	Blockage	293.61	291.25	293.35	293.05	294.16
September 3, 2020	Blockage	293.94	291.17	292.95	292.6	294.12
June 18, 2021	Blockage	Blockage	291.1	292.23	292.54	293.71
September 15, 2021	Blockage	Blockage	291.11	292.27	292.54	293.83
June 29, 2022	293.72	Blockage	291.12	292.14	292.76	293.9
September 7, 2022	294.65	Blockage	291.01	292.03	293.08	293.54
July 18 – 20, 2023	294.22	Blockage	290.07	291.58	291.75	291.88
September 29, 2023	294.62	294.871	290.52	291.44	Dry	292.09
June 12, 2024	294.2	294.1	291.0	292.6	292.4	293.7
July 10, 2024	294.5	294.3	290.9	292.1	292.1	293.6
August 20, 2024	294.6	294.9	290.8	291.9	292.1	293.6
September 11, 2024	294.6	294.8	290.8	292.5	292.0	293.4

Figure 4.15 Historical trends in groundwater elevation between 2018 - 2024 in six monitoring wells



4.4.2 Groundwater Sampling

In situ field parameter and analytical results are provided in Table B.2 and Table B.3, Appendix B, respectively, and copies of laboratory COAs are included in Appendix F.

Parameters that exceeded applied guidelines (CCME FAL and/or FIGQG) are listed in Table 4.6 with red highlights representing those parameters that were reported above applied guidelines in both Years 5 and 6 of the LTM.

Those parameters that were measured above applied guidelines in the SNP 2016-7 samples were plotted with historical values and compared to applied guidelines and are presented in Figure 4.16. These figures allow for the comparison of both the scale of exceedances and the general trends of elevated parameters over the duration of the LTM program to date. Results from samples collected from MW1 and MW2, located within the TSCA, are not presented on these figures. The concentrations in the samples collected from within the TSCA tended to be elevated compared to those measured in the groundwater collected outside of the TSCA, which would have prevented the observation of trends in Figure 4.16.

Table 4.6 Groundwater Analytical Result Exceedances for Year 6 of the LTM

Sampling Station	Date	Exceedances
MW1	12-Jun-24	ammonia, sulfate, aluminum, arsenic, iron, manganese, zinc
	10-Jul-24	ammonia, sulfate, arsenic, iron, manganese, zinc, toluene
	20-Aug-24	ammonia, sulfate, aluminum, arsenic, cadmium, iron, manganese, zinc, toluene
	12-Sept-24	ammonia, sulfate, aluminum, arsenic, cadmium, iron, manganese, zinc, toluene
MW2*	12-Jun-24	ammonia, chloride, sulfate, TDS, arsenic, cadmium, cobalt, iron, manganese, nickel, uranium, zinc
	10-Jul-24	ammonia, chloride, sulfate, TDS, arsenic, cadmium, cobalt, iron, manganese, nickel, uranium, zinc
	20-Aug-24	ammonia, chloride, sulfate, TDS, arsenic, cadmium, cobalt, iron, manganese, nickel, selenium, zinc
	12-Sept-24	ammonia, chloride, sulfate, TDS, arsenic, cadmium, cobalt, iron, manganese, nickel, zinc
MW3 (SNP 2016-7a)	12-Jun-24	ammonia, sulfate, arsenic, iron, manganese, uranium
	10-Jul-24	ammonia, sulfate, arsenic, iron, manganese, uranium
	20-Aug-24	ammonia, sulfate, arsenic, iron, manganese, uranium
	12-Sept-24	ammonia, sulfate, arsenic, iron, manganese, uranium
MW4 (SNP 2016-7b)	12-Jun-24	ammonia, sulfate, arsenic, iron, manganese
	10-Jul-24	ammonia, sulfate, arsenic, iron, manganese
	20-Aug-24	ammonia, sulfate, arsenic, cadmium, copper, iron, manganese
	12-Sept-24	sulfate, arsenic, copper, iron, manganese
MW5 ** (SNP 2016-7c)	12-Jun-24	sulfate, arsenic, iron, manganese
	10-Jul-24	ammonia, aluminum, arsenic, iron, manganese, uranium
	20-Aug-24	ammonia, arsenic, iron, manganese, uranium
	12-Sept-24	aluminum, arsenic, iron, manganese, uranium
MW6 (SNP 2016-7d)	12-Jun-24	sulfate, selenium
	10-Jul-24	nitrate, nitrate (as N), sulfate, selenium
	20-Aug-24	nitrate, nitrate (as N), sulfate, selenium
	12-Sept-24	nitrate, nitrate (as N), sulfate, selenium

Notes:

Red highlights represent parameters with concentrations that exceeded applied guidelines in Year 5 and 6 of the LTM and trigger the requirement for adaptive management as per the Phase I LTM Plan

* - MW2 was dry in 2023

** - insufficient water for sampling in 2023

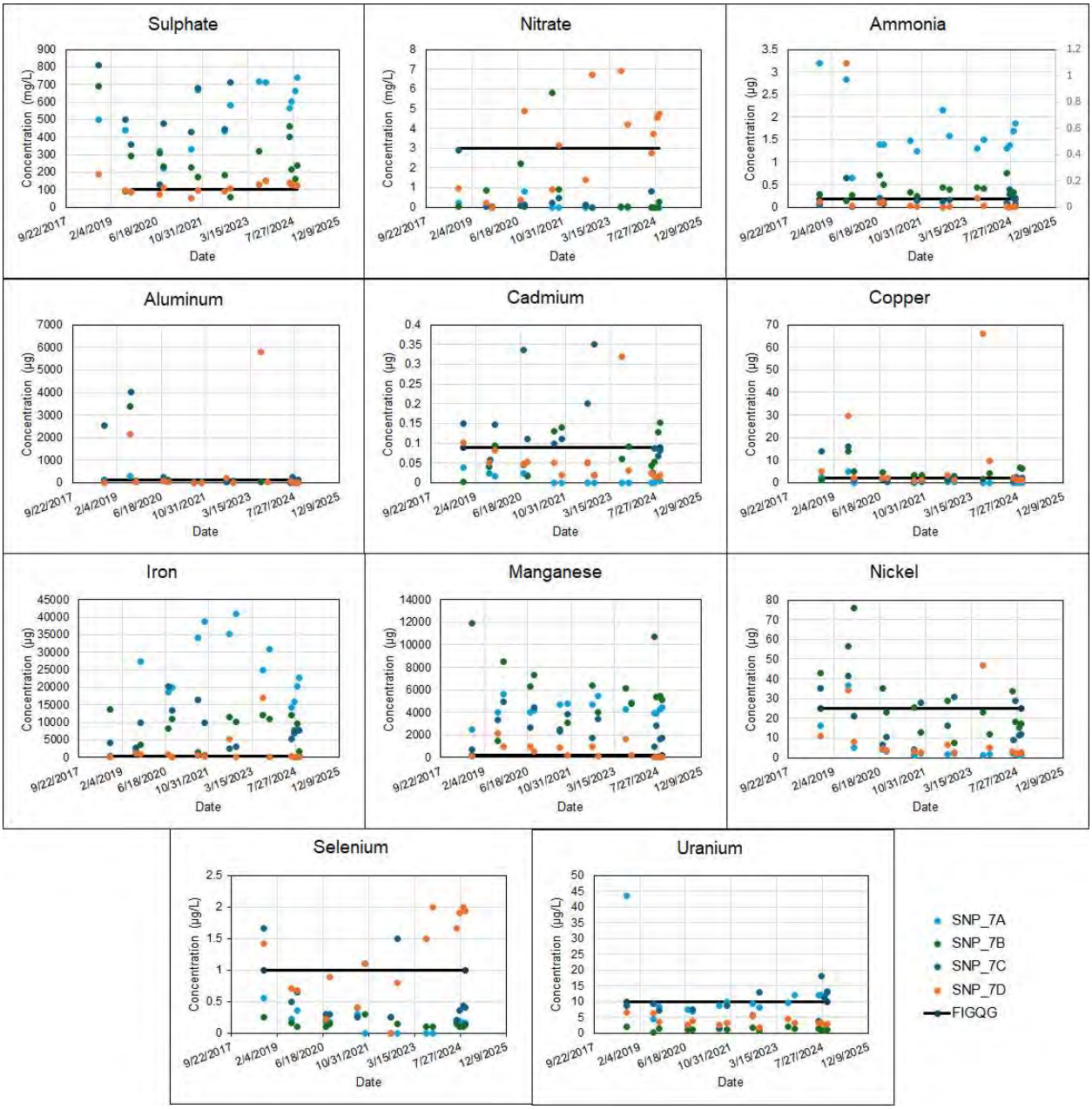
Potential mitigative action, as outlined in the Phase I LTM Plan, includes reviewing and/or modifying the monitoring frequency and/or remedial design components, trouble-shooting TSCA performance, and completing repairs as necessary (Stantec, 2018a). Additional details of potential mitigative action are provided in the text below.

The majority of parameters remain relatively stable at the four SNP 2016-7 station, over the duration of the LTM program, albeit some are above applied guidelines. Parameters that exceed guidelines include aluminum, iron, sulphate, cadmium, copper, manganese, and nickel. Nitrate concentrations appear to be consistently elevated in samples collected at SNP 2016-7d since 2020. Both ammonia and iron concentrations are not only elevated above applied guidelines in samples collected from SNP 2016-7a, but concentrations are also elevated above those measured in the other three SNP 2016-7 stations. It was observed that reported guideline exceedances of ammonia concentrations in 2024 were attributed to the use of the lowest concentration in the generically calculated concentration range of the applied guideline in 2024 (0.173 mg/l) compared to the high-end of the calculated concentration range (190 mg/L) used in the previous year. The applied guideline for ammonia is both pH and temperature dependent.

Selenium concentrations appear to be trending upwards in samples collected from SNP 2016-7d. However, selenium concentrations were measured to be above guidelines only in one sample collected from the TSCA groundwater in 2024 (MW2 on August 20). Uranium also appears to be trending upward in samples collected from SNP 2016-7a and SNP 2016-7c. Historically, uranium concentrations had not exceeded applied guidelines in samples collected from SNP 2016-7c. Uranium concentrations were also elevated above applied guidelines in samples collected from MW2 in June and July of 2024, but not in August or September.

Potential mitigative action to address the ongoing exceedances of the applied guidelines at select monitoring wells downgradient of the TSCA (i.e., SNP2016-7a, -7b, and 7d), as outlined in the Phase I LTM Plan (Stantec, 2018a), includes reviewing and/or modifying the monitoring frequency and/or remedial design components, trouble-shooting landfill performance, and completing repairs as necessary. As outlined in the GSI provided under separate cover (K'alo-Stantec, 2024) and provided in Appendix G, geotechnical recommendations for the TSCA were recommended following the 2024 inspection. Implementation of the geotechnical recommendations and continued monitoring of the groundwater within and downgradient of the TSCA could be completed to confirm if geotechnical deficiencies at the TSCA may be impacting concentrations of metals parameters in the groundwater. The installation of a background groundwater monitoring well could also be completed to aid in the evaluation of groundwater quality at and downgradient of the TSCA, and aid in determining if ongoing exceedances are potentially related to the TSCA or potentially naturally occurring conditions.

Figure 4.16 Historical trends in parameters above applied guidelines in 2024 in SNP 2016-7 stations



4.4.3 Surface Water Monitoring and Sampling

The SNP includes surface water sampling sites from Gordon Lake in the expected receiving environment of the six historic mine sites (SNP 2016-11) and from potential surface water runoff locations on the TSCA (SNP-2016-8). Sampling locations are depicted on the following figures (Appendix A):

- Figures A.2, and A.2.4 (SNP 2016-11a)
- Figures A.3, to A.3.3 (SNP 2016-11b1 to 2016-11b4, and SNP 2016-11c
- Figures A.5 and A.5.2 (SNP 2016-11d)
- Figures A.8 and A.8.1 (SNP2016-11e)
- Figures A.10 and A.10.1 (SNP 2016-11f)

In situ field parameter and analytical results are provided in Table B.4 and Table B.5, Appendix B, respectively, and laboratory COAs are included in Appendix F.

Parameters that exceeded applied guidelines (CCME FAL) are listed in Table 4.7, with red highlights representing those parameters that were reported above applied guidelines in both Years 5 and 6 of the LTM.

Table 4.7 SNP - Surface Water Analytical Result Exceedances for Year 6 of the LTM

Sampling Station	Date	Exceedances
SNP 2016-11d (Kidney Pond)	22-Aug-24	Aluminum, Iron

Notes:
Red highlights represent parameters that exceeded applied guidelines in Year 5 and 6 of the LTM

In surface water samples collected during the Year 6 LTM program, only aluminum and iron concentrations were elevated above applied guidelines in SNP 2016-11d, and only for the August event. The concentrations of these parameters were plotted with historical concentrations and are presented in Figure 4.17 to assess for potential trends in concentrations over time. No trends in concentrations were observed in the data over time in either parameter. However, it was observed that both aluminum and iron exceed guidelines in the same sampling event, which may indicate the presence of sediment in the sample.

Samples SNP 2016-8a and SNP 2016-8b were not collected over the six years of LTM as no surface water drainage has been observed at these stations.

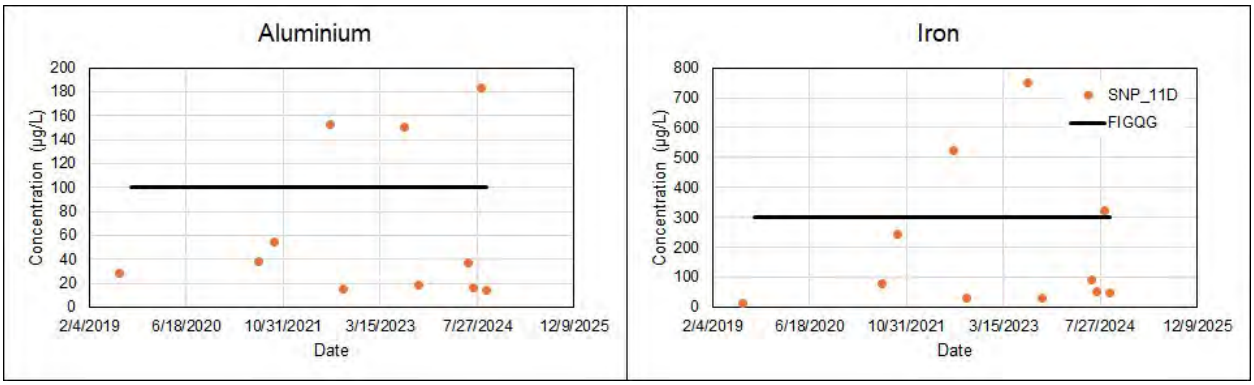
Analysis of total suspended solids (TSS) is used to assess the potential erosion of the backfilled remedial excavation areas. A summary of TSS results from Years 1 through 6 are presented Table 4.8.
The majority of samples are below LODs. The highest TSS values were observed in SNP 2016-11d, with peak values at this station generally corresponding to elevated measurements of aluminum and iron (Figure 4.17). Overall, a lower TSS concentrations were observed across the monitored locations, in 2023 and 2024, potentially indicating that erosion of backfilled areas is not of concern.

Table 4.8 Summary Surface Water LTM Total Suspended Solids Results

	Total Suspended Solid Concentrations (mg/L)								
	Burnt Island	Camlaren				Zenith Island	Kidney Pond	Treacy	West Bay
Sampling Point	SNP 2016-11a	SNP 2016-11b1	SNP 2016-11b2	SNP 2016-11b3	SNP 2016-11b4	SNP 2016-11c	SNP 2016-11d	SNP 2016-11e	SNP 2016-11f
July 2019	10	160	5.3	4.7	2.0	11.0	5.3	<1.0	1.3
September 2019	1.3	7.3	1.3	2.0	1.3	2.0	10	1.3	2.7
July 2020	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	8.9	<1.0	<1.0
September 2020	7.3	<1.0	<1.0	<1.0	<1.0	<1.0	2.3	1.4	1.4
June 2021	12.0	6.0	12.0	26.0	8.0	<3	12.0	6.0	10.0
September 2021	10.0	6.0	10.0	10.0	6.0	14.0	150.0	18.0	12.0
June 2022	6.0	<3.0	<3.0	<3.0	<3.0	<3.0	38	<3.0	<3.0
September 2022	8.0	<3.0	<3.0	<3.0	<3.0	<3.0	6.0	<3.0	6.0
July 2023	1	<0.99	<1.0	3.1	<1.0	<1.0	210	1.4	<1.0
September 2023	<0.96	<1.0	<0.99	5.9	<0.96	<1.0	1.3	1.8	<1.0
June 2024	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	1.1	<1.0	<1.0
July 2024	3.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
August 2024	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11.1	<1.0	<1.0
September 2024	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.0	<1.0	<1.0

Notes:
mg/L = milligrams per litre
grey values are below the laboratory reported detection limit

Figure 4.17 Historical trends in parameters above applied guidelines in 2024 in SNP 2016-11 stations



4.4.4 QA/QC

The purpose of the QA/QC program implemented as part of the groundwater and surface water sampling program was to assess the reliability and reproducibility of the analytical data. The QA/QC review consisted of evaluating sample collection and handling methods, sample hold times, general laboratory comments, and field and laboratory duplicate results.

A summary of the QA/QC program is provided in Table 4.9, below.

Table 4.9 Summary of QA/QC

QA/QC Parameter	Comment
Collection and Handling	• Samples were collected in appropriate containers and had appropriate preservation measures. Sample temperatures for organic analyses were below 10°C, with the exception for samples collected on August 20, 2024 which were marginally above at 10.9 °C • Sample hold times exceeded for nitrates, nitrites, and orthophosphates for most surface water and groundwater samples. In general, samples were submitted to the laboratory depot in Yellowknife, NT the day following collection. As such, with respect to nitrate, nitrite, and orthophosphate, the qualifier is related to the time required to transport and ship the samples from the depot to the laboratory in Burnaby, British Columbia (BC), which is typically longer than the recommended hold time of three days. CCME has recognized the difficulty in sampling remote sites and has indicated that “Three day hold times may not be practically achievable, particularly for samples from remote locations. Laboratories should commence analysis as soon as possible but within 48 hours of receipt. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.” (CCME, 2016). Further, a study reported no loss over a 14-day period at neutral or basic pH, and at 24° C (Cai, Zhang, & Yang, 2001). As such, the hold time exceedances are not expected to have affected the interpretation of analytical results in surface water.
Laboratory QA/QC	• Matrix spikes, method blanks, replicates, referenced criteria, and surrogate recoveries were within acceptable ranges.
Field QC	• Field duplicate samples were within the acceptable criteria • Field blanks were below laboratory LODs for measured parameters • Trip blanks were below laboratory LODs for measured parameters

Based on the above results, the analytical data for the water samples analyzed are considered reliable and to have an acceptable level of reproducibility.

5 Summary and Conclusions

The Year 6 LTM field program was completed in June, July, August and September of 2024.

Areas visually inspected by the geotechnical engineering team were generally in good condition with the exception of the following locations:

- Burnt Island – Portal: deep depressions at top of backfilled area
- Burnt Island – Shaft: small depression observed on the southwest end of the shaft
- Camlaren – TSCA and various monitoring sites around the TSCA indicated animal burrowing in the Summer and Fall of 2024
- Camlaren – minor, fresh erosion was observed in the form of overland flow impacts
- Kidney Pond – Portal: Rills and evidence of settling observed on south side of slope
- West Bay – Open Pit: fence was observed to be falling over in spots, and gaps under the fence are up to 1 m high in areas. This currently allows access to both animals and humans to the open pit

During the data downloads from thermistors and VWPs in July 2024, thermistor VT2 and VWP VB2 were reactivated. Thermistor VT2 had not been logging data since September 18, 2022 and VWP VB2 had not been logging data since September 4, 2020. Data collected from VT2 after it was reactivated in July 2024 appears to be biased high, indicating that the thermistor may not be properly connected after the reactivation. Data collected from VB after it was reactivated in July 2024 appears to be continuing the same trend that was observed prior to deactivation. However, there are too few data points to assess this thoroughly at this point.

The results of the SNP groundwater and surface water monitoring indicated generally consistent results to previous LTM programs. However, ammonia and uranium concentrations in groundwater at five and two of six locations were observed to be above applied guidelines; additionally, these exceedances were at locations where these parameters did not previously exceed guidelines. The analytical results collected in 2024 were plotted alongside historical data for those parameters that exceeded applied guidelines, and it was observed that ammonia has remained relatively consistent over the duration of the LTM program. It was observed that reported guideline exceedances of ammonia concentrations in 2024 were attributed to the use of the lowest concentration in the generically calculated concentration range of the applied guideline in 2024 (0.173 mg/l) compared to the high-end of the calculated concentration range (190 mg/L) used in the previous year. It was also observed that uranium concentrations appear to be trending upward over time in SNP 2016-7a and SNP 2016-7c, and selenium concentrations appear to be trending upward over time in SNP 2016-7d.

Surface water results at SNP stations were generally consistent with previous LTM Years. It was identified that applied guideline exceedances in aluminum and iron observed in 2024 and in previous years of the LTM program are potentially related to elevated TSS measurements and are likely a result of sediment in the surface water samples.

6 Recommendations

Based on the results of Year 6 of the LTM Program, K'alo-Stantec recommends the following:

- Visual inspections conducted in backfilled/covered areas, former mine openings, and waste rock indicated that the following areas require further observation or repair:
  - Burnt Island Portal: deep depressions at top of backfilled area should be closely monitored
  - Burnt Island Shaft: small depression observed on the southwest end of the shaft should be monitored for changes
  - Camlaren TSCA: animal burrowing that occurred in the Summer and Fall of 2024 should be repaired and animal deterrents should be installed where applicable/practical. For the minor erosion, regrading to prevent concentrated overland flow is recommended
  - Kidney Pond Portal: Rills and evidence of settling observed on south side of slope, and should be closely monitored
  - West Bay Open Pit: the gaps under the fence should be blocked off and the tipped fence post should be repaired
- Inspection of the connectivity of the wires following the repair of thermistor VT1, which was completed in 2024, is recommended as this is the most likely cause of the offset thermistor readings. The replacement of a single node within the thermistor string is not recommended at this time as this may off set the depth of the node and result in data that is not comparable to historical values.
- Conducting statistical analysis using Mann-Kendall analysis to look for trends in the current and historical metal concentrations and other measured parameters from the SNP stations to monitor trends in measurements. measurements which may help identify erosional or potential contaminant leaching issues. Additionally, plotting current and historical metal concentrations and other measured parameters from the SNP stations to examine potential correlations between individual parameters.
- Calculating applied guidelines for surface water concentrations of for ammonia, nitrate, nitrite, aluminum, antimony, arsenic, cadmium, chloride, chromium, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver, thallium, uranium, and zinc, which are dependent on *in situ* values (including pH, temperature, hardness, and dissolved organic carbon). The calculations should utilize the field measurements for each individual sampling location when comparing the data to the applicable guidelines for the above-mentioned metals parameters.
- Developing a Phase II LTM program for subsequent monitoring years based on the PAR and data collected and visual observations from Year 1 through 6 of the Phase I LTM program.

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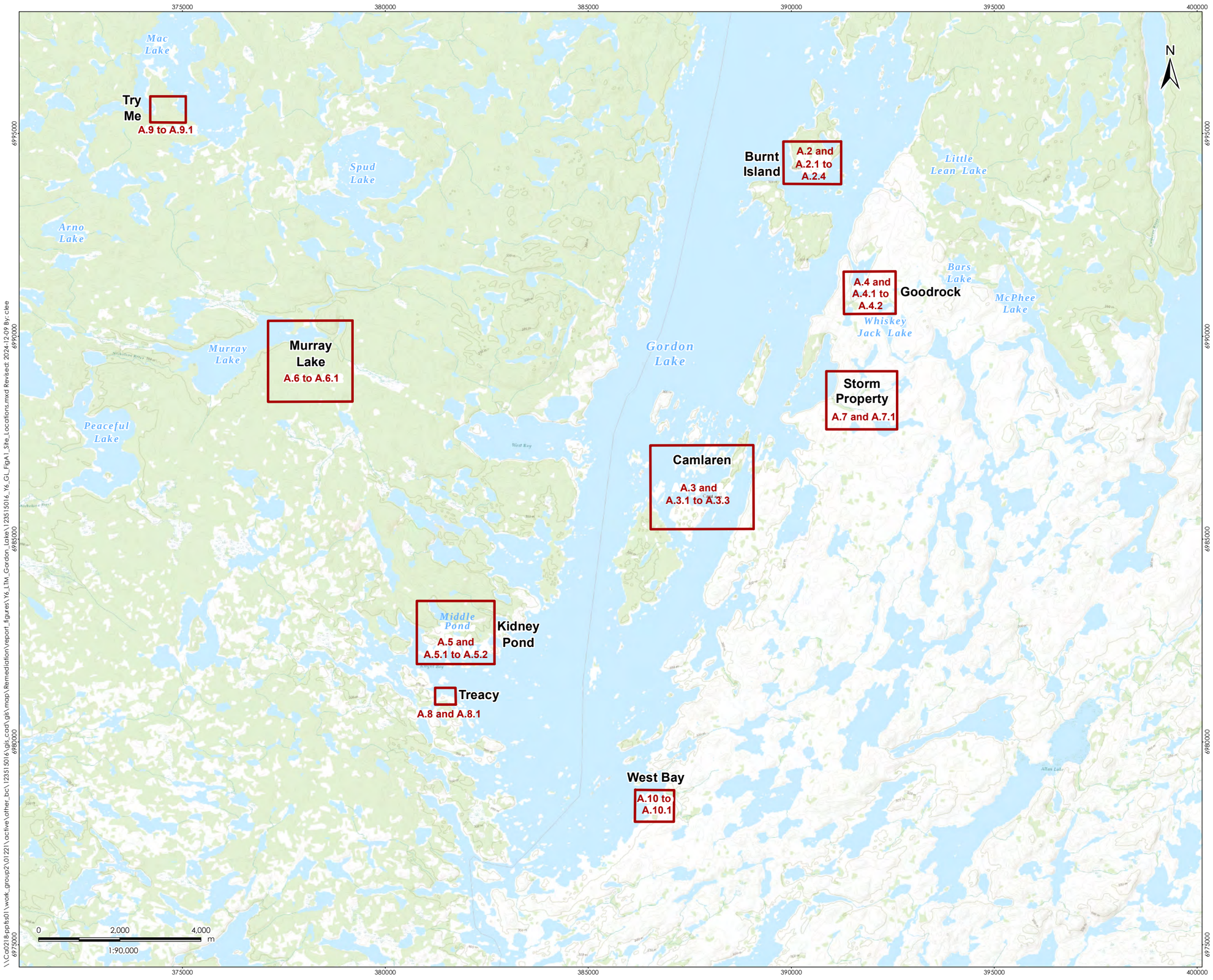
Appendix A Figures



Kalo-Stantec

Legend

Site Location

December 2024

NAD 1983 UTM Zone 12N

123515016

Client/Project

Public Services an d Procurement Canada
Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.1

Title

Site Locations

390000
390500
391000
6994500
6994000
N
OLD MILL AREA
A.2.4
SNP Station 2016-11a
SHAFT AREA
COVERED TAILINGS AREA
A.2.1
Backfilled and Capped Mine Shaft
A.2.2
Backfilled Portal
A.2.3
WASTE ROCK AREA
Gordon Lake
0
100
200
m
1:4,000
bing
© 2024 Microsoft Corporation © 2024 Maxar ©CNES (2024) Distribution Airbus DS
Sources: MapMart Orthoimagery (2011), GeoBase, CANVEC
\\Ca0218-ppfss01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\mxp\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA2_BurntIsland_Overview.mxd clee

Kalo-Stantec

Legend
- Surface Water Sample Location
- Waterbody
- Map Extent

KEY MAP
Burnt Island
Gordon Lake

NAD 1983 UTM Zone 12N

December 2024
123515016

Client/Project

Public Services and Procurement Canada
Gordon Lake Group Sites Long-Term Monitoring Program – Year 5

Figure No.
A.2

Title

Burnt Island
Site Overview

390400

390500

6994500

N

Covered Tailings Area

0 10 20 m

1:500

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

\\Ca0218ppfss01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\map\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA1-2to1-5_BurntIsland.mxd clee

Kalo-Stantec

Legend

Trail

Tailings

NAD 1983 UTM Zone 12N

December 2024
123515016

Client/Project

Public Services an d Procurement Canada
Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.**2.1**

Title

Burnt Island - **Covered Tailings Area**
Summary of Long Term Monitoring Components

390600

6994500

N

Backfilled and Capped Mine Shaft

0 5 10 m

1:300

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

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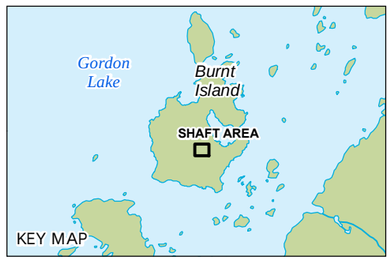
Kalo-Stantec

Legend

Mine Opening



NAD 1983 UTM Zone 12N

December 2024
123515016

Client/Project

Public Services an d Procurement Canada
Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.**2.2**

Title

Burnt Island - Shaft Area Summary of Long Term Monitoring Components

390700
390800
390900
6994500
6994400
N
Backfilled Portal
0 10 20 30 40 m
1:700
Sources: MapMart Orthomagery (2011), GeoBase, CANVEC
\\Ca0218-ppfss01\work_group2\0122\1\active\other_be\123515016\gis_cad\gis\map\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA1-2to1-5_BurntIsland.mxd clee

Kalo-Stantec

Legend
- Trail
- Mine Opening
- Waterbody

NAD 1983 UTM Zone 12N

December 2024
123515016

Client/Project
Public Services an d Procurement Canada
Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.
A.**2.3**

Title
Burnt Island - Waste Rock Area
Summary of Long Term Monitoring Components

390800
390900
6994700
6994600
N
BUR_SO_07
SNP Station
2016-11a
BUR_WR_01
TTT
0
10
20
m
1:600
Sources: MapMart Orthomagery (2011), GeoBase, CANVEC
\\Ca0218-ppfss01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA1-2to1-5_BurntIsland.mxd clee

Kalo-Stantec

Legend
- Surface Water Sample Location
- TTT Moderately Risked Waste Rock Trench
- Moderate Risk Impacting Material
- Remedial Excavation
- Trail
- Waterbody

NAD 1983 UTM Zone 12N

December 2024
123515016

Client/Project
Public Services an d Procurement Canada
Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

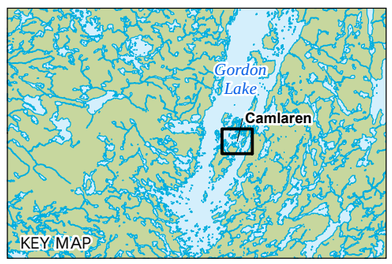
Figure No.
A.**2.4**

Title
Burnt Island - Old Mill Area
Summary of Long Term Monitoring Components

387000
387500
388000
388500
389000
6987000
6986500
6986000
6985500
N
Gordon Lake
MINE AREA NORTH
A.3.2
MINE AREA SOUTH
A.3.1
A.3.3
ZENITH ISLAND
Zenith Island
Approximate SNP Station 2016-8a
SNP Station 2016-11b3
SNP Station 2016-11b1
SNP Station 2016-7d (MW6)
SNP Station 2016-7a (MW3)
SNP Station 2016-7b (MW4)
SNP Station 2016-7c (MW5)
SNP Station 2016-11b2
SNP Station 2016-11b4
Approximate SNP Station 2016-8b
SNP Station 2016-11c
VB3
MW2
VT2
VB2
VT1
MW1
VB1
0 100 200 300 400 m
1:8,000
bing
© 2024 Microsoft Corporation © 2024 Maxar ©CNES (2024) Distribution Airbus DS
Sources: MapMart Orthomagery (2011), GeoBase, CANVEC
\\Ca0218-ppfs01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA3_Camlaren_Overview.mxd cele

Kalo-Stantec

Legend
- Approximate Discharge Location
- Surface Water Sample Location
- Groundwater Sample Location
- TSCA Monitoring Well
- TSCA Thermistor
- TSCA Vibrating Wire Piezometer
- Approximate Camp Location
- Approximate Location of TSCA
- Waterbody
- Map Extent



NAD 1983 UTM Zone 12N

December 2024
123515016

Client/Project

Public Services and Procurement Canada
Gordon Lake Group Sites Long-Term Monitoring Program – Year 5

Figure No.

A.3

Title

Camlaren
Site Overview

388100 388150 388200 388250 388300 388350 388400 388450

6986100 6986050 6986000 6985950 6985900 6985850 6985800

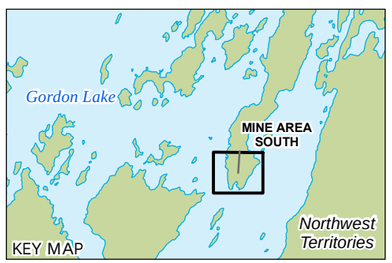
CAM_SO_01
SNP Station 2016-11b1
SNP Station 2016-7d (MW6)
VB3
SNP Station 2016-7a (MW3)
VT2
MW2
TSCA
CAM_SO_04
VB2
CAM_SO_03
CAM_SO_05
VT1
MW1
CAM_SO_07
CAM_SO_06
CAM_SO_09
VB1
SNP Station 2016-7b (MW4)
SNP Station 2016-7c (MW5)
Approximate SNP Station 2016-8b
SNP Station 2016-11b2
SNP Station 2016-11b4
CAM_SO_10
CAM_SO_12
CAM_SO_08
Gordon Lake
CAM_SO_11

0 10 20 30 40 m
1:1,300

N

Kalo-Stantec

Legend
- Approximate Discharge Location
- Surface Water Sample Location
- Groundwater Sample Location
- TSCA Monitoring Well
- TSCA Thermistor
- TSCA Vibrating Wire Piezometer
- Backfilled Remedial Excavation
- Remedial Excavation
- Tailings and Soil Containment Area (TSCA)
- Excavated Waste Rock
- Trail
- Waterbody



NAD 1983 UTM Zone 12N

December 2024
123515016

Client/Project
Public Services an d Procurement Canada
Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.
A.3.1

Title
Camlaren - Mine Area South
Summary of Long-Term Monitoring Components

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

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388150 388200 388250 388300 388350 388400 388450

6986400 6986350 6986300 6986250 6986200 6986150

N

Gordon Lake

CAM_SO_18

CAM_SO_14

CAM_SO_19

Approximate SNP Station 2016-8a

CAM_SO_20

SNP Station 2016-11b3

CAM_SO_01

0 10 20 30 40 m

1:1,200

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

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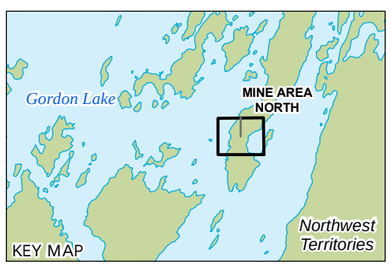
Kalo-Stantec

Legend

- Approximate Discharge Location
- Surface Water Sample Location
- Backfilled Remedial Excavation
- Remedial Excavation
- Tailings and Soil Containment Area (TSCA)
- Waterbody



NAD 1983 UTM Zone 12N

December 2024
123515016

Client/Project

Public Services an d Procurement Canada
Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.3.**2**

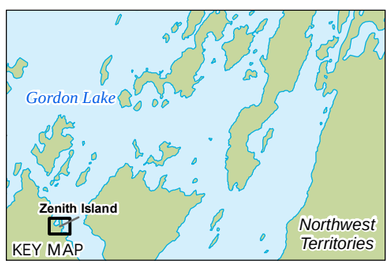
Title

Camlaren - Mine Area North Summary of Long-Term Monitoring Components

386700
386750
386800
386850
6985550
6985500
6985450
N
Gordon Lake
Zenith Island
CAM_SO_23
SNP Station
2016-11c
Backfilled and
Capped Shaft
0
10
20
m
1:600
Sources: MapMart Orthomagery (2011), GeoBase, CANVEC
\\Ca021ppfss01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\map\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA2-2to2-4_Camlaren.mxd clee

Kalo-Stantec

Legend
- Surface Water Sample Location
- Backfilled Remedial Excavation
- Mine Opening
- Excavated Waste Rock
- Waterbody



NAD 1983 UTM Zone 12N

December 2024
123515016

Client/Project

Public Services an d Procurement Canada
Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.3.3

Title

Camlaren - Zenith Island Summary of Long-Term Monitoring Components

391500
392000
392500
6991500
6991000

CAMP AREA

A.4.1

Gordon Lake

GOO_WR_01

MILL AREA

A.4.2

GOO_WR_02

Whiskey Jack Lake

N

Legend

- Moderate Risk Impacting
- Watercourse
- Waterbody
- Map Extent

0 100 200 m

1:4,000

bing

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

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Gordon Lake Group Sites Long-Term Monitoring Program – Year 5

Figure No.

A.4

Title

Goodrock
Site Overview

N:\Cal2018-ppb501\work_group2\201221\active\other_bc\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA4_Goodrock_Overview.mxd cjee

391700
391800
391900
6991500
6991400
6991300
N
TTT
GOO_WR_01
Gordon Lake
0 10 20 30 40 m
1:1,000
Sources: MapMart Orthomagery (2011), GeoBase, CANVEC
\\Cal0218-ppfss01\work_group2\0122\1\active\other_tech\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA3-2to3-3_Goodrock.mxd clee

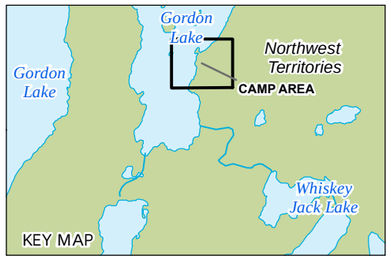
Kalo-Stantec

Legend

TTT Moderately Risked Waste Rock Trench

Moderate Risk Impacting Material

Water body



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Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.**4.1**

Title

Goodrock Mine - Camp Area Summary of Long-Term Monitoring Components

391700 391800 391900 392000 392100 392200

6991200 6991100 6991000 6990900 6990800

N

Gordon Lake

Whiskey Jack Lake

GOO_HS_01

Backfilled and Capped North Mine Shaft

GOO_WR_02

TTT

Backfilled South Pit

0 10 20 30 40 50 60 70 80 m

1:2,000

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

\\Cal0218-ppfss01\wolf_group2\01122\active\other_tech\123515016_Y6_GL_FigA3-2to3-3_Goodrock.mxd clee

\\Cal0218-ppfss01\wolf_group2\01122\active\other_tech\123515016\gis_cad\gis\mapr\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA3-2to3-3_Goodrock.mxd clee

Kalo-Stantec

Legend

- TTT Moderately Risked Waste Rock Trench
- Moderate Risk Impacting Material
- Mine Opening
- Covered Hotspot
- Watercourse
- Water body

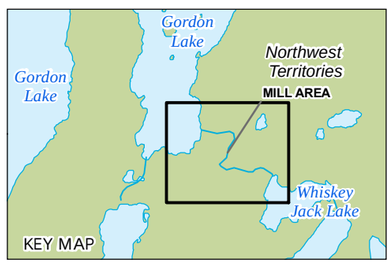

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Figure No.

A.**4.2**

Title

Goodrock Mine - Mill Area Summary of Long-Term Monitoring Components

381000
381500
382000
6983000
6982500
6982000

Sentinel Lake
Kidney Pond
Middle Pond
Gordon Lake

A.5.2
PORTAL AREA

SNP Station
2016-11d

EXPLORATION
CAMP
KID_WR_04
A.5.1

N

0 100 200 m
1:5,300

bing
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Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

\\Ca0218-ppfs01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\mxp\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA5_Kidney_Overview.mxd clee

Kalo-Stantec

Legend
- Moderate Risk Impacting Material
- Watercourse
- Waterbody
- Map Extent

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Figure No.
A.5

Title
Kidney Pond
Site Overview

382350
382400
382450
6982350
6982300
N
Gordon Lake
KID_WR_04
TTT
TTT
TTT
TTT
TTT
0
10
20
m
1:500
Sources: MapMart Orthomagery (2011), GeoBase, CANVEC
C:\Cad\218-prjfls\01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA4-2to4-3_Kidney.mxd_clee

Kalo-Stantec

Legend

- TTT Moderately Risked Waste Rock Trench
- Moderate Risk Impacting Material
- Waterbody

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Figure No.

A.**5.1**

Title

Kidney Pond - Exploration Camp Summary of Long-Term Monitoring Components

381400 381450 381500 381550 381600 381650

6982850 6982800 6982750 6982700

Sentinel Lake

N

Backfilled Portal

KID_WR_03

KID_WR_01

KID_SO_10

KID_SO_07

KID_SO_11

TTT

SNP Station 2016-11d

Middle Pond

0 10 20 30 40 m

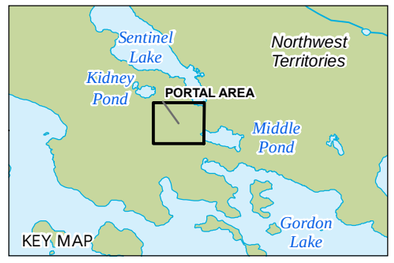
1:800

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

Kalo-Stantec

Legend

- Surface Water Sample Location
- TTT Moderately Risked Waste Rock Trench
- Moderate Risk Impacting Material
- Backfilled Remedial Excavation
- Wet Area
- Mine Opening
- Excavated and Covered Waste Rock
- Overland Drainage
- Waterbody



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Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.**5.2**

Title

Kidney Pond - Portal Area
Summary of Long-Term Monitoring Components

\\Cal2218-pptfs01\work_group2\A012210\active\other_bc\123515016_gis_cad\gis_mxd\Reclamation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA4-2to4-3_Kidney.mxd cbee

377000
377500
378000
378500
379000

6990000
6989500
6989000
6988500

Murray Lake

A.6.1

Backfilled Deep Trench/Shaft

TRENCH AREA

MUR_WR_02

MUR_WR_01

Backfilled Main Shaft

0 100 200 m

1:7,500

N

bing

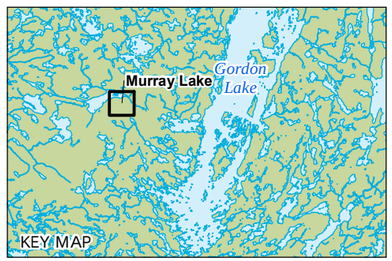
Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

\\Ca0218-ppfss01\work_group2\0122\1\active\other_bc\123515016\gis_cad\gis\map\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA6_Murray_Overview.mxd clee

Kalo-Stantec

Legend

- Moderate Risk Impacting Material
- Watercourse
- Waterbody
- Map Extent



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Gordon Lake Group Sites Long-Term Monitoring Program – Year 5

Figure No.

A.6

Title

Murray Lake
Site Overview

377500
377750
378000
378250
378500
6989250
6989000
6988750
6988500

N

Backfilled
Deep Trench/Shaft

Backfilled
Main Shaft

MUR_WR_01

MUR_WR_02

0 20 40 60 80 100 120 m
1:3,500

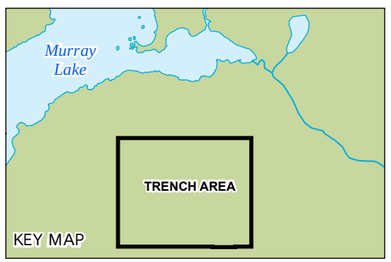
Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

\\Ca0218-ppfss01\work_group2\0122\active\other_bc\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA5-2_Murray.mxd clee

Kalo-Stantec

Legend

- TTT Moderately Risked Waste Rock Trench
- Moderate Risk Impacting Material
- Mine Opening
- Watercourse
- Waterbody



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Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.**6.1**

Title

Murray Lake - Trench Area Summary of Long-Term Monitoring Components

391000
391500
392000
392500
6989000
6988500
6988000

Gordon Lake

N

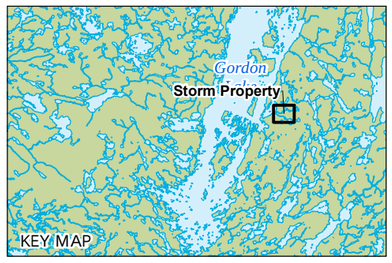
Legend
- Watercourse
- Waterbody
- Map Extent

A.7.1
SHAFT
AREA

0 100 200 m
1:5,500

bing

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC



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Gordon Lake Group Sites Long-Term Monitoring Program – Year 5

Figure No.

A.7

Title

Storm Property
Site Overview

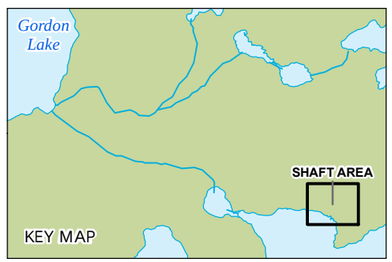
\\Cal0218-ppfss01\work_group2\01221\active\other_tech\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA7_Storm_Overview.mxd clee

392300
392400
392500
6988100
6988000
N
STO_WR_01
STO_WR_02
TTT
TTT
TTT
Backfilled
North Mine Shaft
Backfilled
South Mine Shaft
0
10
20
30
40
m
1:800
Sources: MapMart Orthomagery (2011), GeoBase, CANVEC
\\Ca0218-ppfss01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA6-2_Storm.mxd clee

Kalo-Stantec

Legend

- TTT Moderately Risked Waste Rock Trench
- Moderate Risk Impacting Material
- Mine Opening
- Watercourse
- Waterbody



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Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.7.1

Title

Storm Property - Shaft Area Summary of Long-Term Monitoring Components

381500

N

Kalo-Stantec

Legend

- Surface Water Sample Location
- Waterbody
- Map Extent

MILL AREA

Gordon Lake

TRE_SO_01

A.8.1

Backfilled West Trench

Backfilled East Trench

SNP Station 2016-11e

TRE_SO_02

6981000

0 40 80 m

1:1,600

bing

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

NAD 1983 UTM Zone 12N

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Gordon Lake Group Sites Long-Term Monitoring Program – Year 5

Figure No.

A.8

Title

Treacy
Site Overview

\\Ca0218-ppfs01\work_group2\0122\1\active\other_bc\123515016\gis_cad\gis\map\RemediationVeport_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA8_Treacy_Overview.mxd clee

381350
381400
381450
6981200
6981150

N

Gordon Lake

TRE_SO_01

Backfilled
West Trench

Backfilled
East Trench

SNP Station
2016-11e

TRE_SO_02

0 10 20 m
1:400

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

\\Cal0218-ppfss01\work_group2\012121\active\other_bc\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA7-2_Treacy.mxd cbee

Kalo-Stantec

Legend

- Surface Water Sample Location
- Backfilled Remedial Excavation
- Mine Opening
- Excavated Waste Rock
- Waterbody

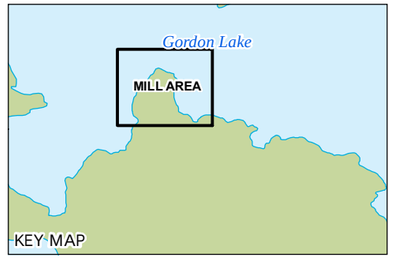

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Figure No.

A.8.1

Title

Treacy - Mill Area
Summary of Long-Term Monitoring Components

374500

375000

N

Mac Lake

Backfilled and Capped Shaft

A.9.1

MAIN CAMP

6995500

0 75 150 m

1:3,000

bing

Sources: MapMart Orthomagery (2011); GeoBase, CANVEC

\\Ca0218-ppfs01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\map\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA9_TryMe_Overview.mxd clee

Kalo-Stantec

Legend

- Waterbody
- Map Extent

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Figure No.

A.9

Title

Try Me
Site Overview

374550 374600 374650 374700 374750 374800 374850 374900 374950 375000

6995650 6995600 6995550 6995500 6995450 6995400 6995350 6995300

N

Mac Lake

Backfilled and Capped Shaft

0 10 20 30 40 50 60 70 80 m

1:1,500

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

\\Ca0218-ppfss01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA8-2_TryMe.mxd clee

Kalo-Stantec

Legend

- Mine Opening
- Water body

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Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.**9.1**

Title

Try Me - Main Camp Summary of Long-Term Monitoring Components

386000
386500
387000
6978500
6978000

N

Gordon Lake

SNP Station
2016-11f

Barricaded Open Pit

WES_WR_01

WES_WR_02

A.10.1
SOUTH
AREA

0 100 200 m
1:4,000

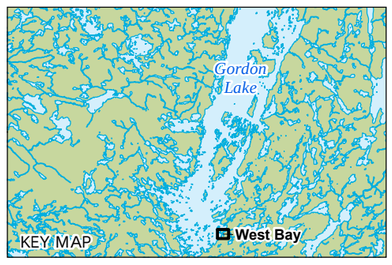
bing

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

\\Ca0218-ppfs01\work_group2\012211\active\other_bc\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA10_WestBay_Overview.mxd clee

Kalo-Stantec

Legend
- Surface Water Sample Location
- Watercourse
- Waterbody
- Map Extent



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Gordon Lake Group Sites Long-Term Monitoring Program – Year 5

Figure No.

A.10

Title

West Bay
Site Overview

386400 386500 386600 386700 386800

6978400 6978300 6978200 6978100

SNP Station 2016-11f

WES_SO_02

Barricaded Open Pit

WES_SO_03

WES_TL_01

WES_WR_02

WES_WR_01

Gordon Lake

N

0 20 40 m

1:1,500

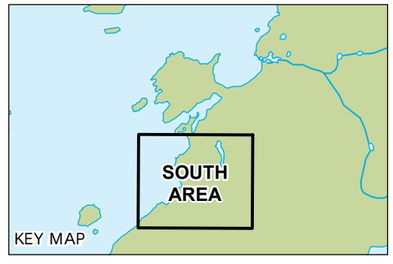
Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

\\Ca0218-ppfss01\work_group2\01221\active\other_bc\123515016\gis_cad\gis\mxd\Remediation\report_figures\Y6_LTM_Gordon_Lake\123515016_Y6_GL_FigA9-2_WestBay.mxd clee

Kalo-Stantec

Legend

- Surface Water Sample Location
- Remedial Excavation
- Tailings Excavation
- Waste Rock Requiring Monitoring
- Watercourse
- Water body



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Gordon Lake Group Sties Long-Term Montiornig Program – Year 6

Figure No.

A.**10.1**

Title

West Bay - South Area
Summary of Long-Term Monitoring Components

Appendix B Data Tables

Table B.1
Surveillance Plan Details
Gordon Lake Group Long-Term Monitoring

Site Name	Hazard Category	Hazard Name	Phase I LTM Figure No.	Monitoring Driver	Phase I Long Term Monitoring Objectives	Triggers for Adaptive Management	Potential Mitigative Actions	Phase I LTM Frequency	Phase I LTM Duration	Target Dates	Exit Criteria
Burnt Island	Mine Openings	Portal	A.2.2	Physical	Verify backfill material is stable with no significant resulting erosion or settlement.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.
Burnt Island	Tailings	Tailings	A.2.1	Aesthetic	Verify cover material is stable with no significant resulting erosion or washout.	Erosion/washout which exposes any tailings and/or rills >10cm.	Re-covering/re-grading as needed.	Biennially	Years 1, 3 and 5	Snow-free periods.	Absence of major erosion/tailings exposure concerns over three consecutive monitoring events.
Burnt Island	Mine Openings	Mine Shaft	A.2.2	Physical	Verify the backfill material is stable with no significant resulting erosion or settlement. Verify the structural stability of the mine opening cap.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.
Burnt Island	Waste Rock	BUR_WR_01	A.2.3	Chemical	Verify no visual signs of ARD down-gradient of remaining impacts.	Down-gradient environment indicates signs of ARD (e.g. new loss of vegetation, stressed vegetation, discoloration, etc.).	Sampling of down-gradient soil and surface water for metals. Trouble-shooting potential sources and addressing waste rock if needed.	Quadrennially	Years 1 and 5	Summer	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring.
Camlaren	Metals Impacted Soil	CAM_SO_04	A.3.1	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water.	Erosion/washout concerns in nearby water and/or rills >10cm.	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Camlaren	Metals Impacted Soil	CAM_SO_06	A.3.1	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water.	Erosion/washout concerns in nearby water and/or rills >10cm.	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Camlaren	Metals Impacted Soil	CAM_SO_07	A.3.1	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water.	Erosion/washout concerns in nearby water and/or rills >10cm.	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Camlaren	Metals Impacted Soil	CAM_SO_08	A.3.1	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water. Visually monitor vegetative health to confirm stable or increasing growth.	Erosion/washout concerns in nearby water and/or rills >10cm. Vegetative health observed to be decreasing (and potential erosion concerns as detailed above).	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed. May consider revegetation or ways to increase vegetative health for the purpose of erosion control.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Camlaren	Metals Impacted Soil	CAM_SO_12	A.3.1	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water.	Erosion/washout concerns in nearby water and/or rills >10cm.	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Camlaren	Metals Impacted Soil	CAM_SO_20	A.3.2	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water.	Erosion/washout concerns in nearby water and/or rills >10cm.	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Camlaren	Metals Impacted Soil	CAM_SO_23	A.3.3	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water.	Erosion/washout concerns in nearby water and/or rills >10cm.	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
					Visually monitor vegetative health to confirm stable or increasing growth.	Vegetative health observed to be decreasing (and potential erosion concerns as detailed above).	Trouble-shooting of source and sediment/erosion control measures as needed. May consider revegetation or ways to increase vegetative health for the purpose of erosion control.				
Camlaren	PHC Impacted Soil	CAM_SO_01	A.3.1	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water.	Erosion/washout concerns in nearby water and/or rills >10cm.	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Camlaren	PHC Impacted Soil	CAM_SO_03	A.3.1	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water.	Erosion/washout concerns in nearby water and/or rills >10cm.	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Camlaren	PHC Impacted Soil	CAM_SO_05	A.3.1	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water.	Erosion/washout concerns in nearby water and/or rills >10cm.	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Camlaren	PHC Impacted Soil	CAM_SO_14	A.3.2	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water.	Erosion/washout concerns in nearby water and/or rills >10cm.	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Camlaren	Mine Openings	Shaft	A.3.3	Physical	Verify backfill material is stable with no significant resulting erosion or settlement. Verify the structural stability of the mine opening cap.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.

Table B.1
Surveillance Plan Details
Gordon Lake Group Long-Term Monitoring

Site Name	Hazard Category	Hazard Name	Phase I LTM Figure No.	Monitoring Driver	Phase I Long Term Monitoring Objectives	Triggers for Adaptive Management	Potential Mitigative Actions	Phase I LTM Frequency	Phase I LTM Duration	Target Dates	Exit Criteria
Camlaren	n/a	TSCA	A.3.1	TSCA Performance	Verify stability of cover material and slopes (includes differential settlement, slope slumping, frost heave, vegetation growth and animal activities). Inspect toe of facility and identify potential seepage. Visually monitor vegetative health to confirm stable or increasing growth.	Differential settlement - Differential settlement >0.5 m. Slope Slumping - Horizontal cracks/movement >0.3 m. Surface Erosion - Slopes or cover erosion >25% loss of material thickness. Frost Heave - Effects >0.2 m. Vegetative Cover - Tree species with roots >0.3 m. Animal activities - Animal activities (such as burrowing) >0.3 m depth. Erosion Control - Coco matting (~5 m) is no longer deemed effective. Ditch Erosion- Exposure of any amount of BGM (i.e. visible liner). Ditch Blockage- Any debris/object that impedes flow or causes ponding. Seepage is identified at the toe of the facility. Vegetative health observed to be decreasing (and potential erosion concerns as detailed above).	Differential settlement - Completing repairs, trouble-shooting of source, and/or increasing monitoring frequency as needed. Slope Slumping - Completing repairs, trouble-shooting of source, and/or increasing monitoring frequency as needed. Surface Erosion - Completing repairs, trouble-shooting of source, and/or increasing monitoring frequency as needed. Frost Heave - Completing repairs, trouble-shooting of source (e.g. ponding/settlement), and/or increasing monitoring frequency as needed. Vegetative Cover - Remove tree species and/or repairs as needed. Animal activities- Completing repairs, trouble-shooting of source, and/or increasing monitoring frequency as needed. Erosion Control - Replacing coco matting (~5 m), trouble-shooting of source, and/or increasing monitoring frequency as needed. May consider revegetation/reseeding or ways to increase vegetative health for the purpose of erosion control. Ditch Erosion- Completing repairs, trouble-shooting of source, and/or increasing monitoring frequency as needed. Ditch Blockage- Completing repairs, trouble-shooting of source (e.g. removal of blockage), and/or increasing monitoring frequency as needed. Sample seepage identified at the toe of facility and groundwater/surface water in vicinity (see SNP program details for SNP Station 2016-8/7(11). In the event that COCs consistently exceed the trigger	Bi-Annually (Spring and Summer)	Years 1 to 5	Frost-free periods at the tail end of spring freshet and summer.	Future exit criteria as well as triggers for action/monitoring frequency will based on long-term results of monitoring.
Camlaren	n/a	TSCA	A.3.1	TSCA Groundwater (elevations and contaminant concentrations)	Verify TSCA permeability functionality to prevent infiltration.	Groundwater elevations (masl) within the TSCA show an increasing trend for 3 consecutive monitoring events (after having obtained sufficient data to establish a trend).	Trouble-shooting of cover system performance. Potential increased monitoring and/or completing repairs as needed.	Bi-Annually (Spring and Summer)	Years 1 to 5	Frost-free periods at the tail end of spring freshet and summer.	Future exit criteria as well as triggers for action/monitoring frequency will based on long-term results of monitoring.
Camlaren	n/a	TSCA	A.3.1		Verify chemical integrity of the TSCA via groundwater sampling. Refer to SNP Program for sampling details (SNP Station 2016-7).	Groundwater contaminant concentrations down-gradient of the TSCA show an increasing trend and/or exceed applicable guidelines for three consecutive monitoring events (after having obtained sufficient data to establish a trend).	Reviewing and/or modifying the monitoring frequency and/or remedial design components may be required. Trouble-shooting of TSCA performance. Completing repairs as needed.	Bi-Annually (Spring and Summer)	Years 1 to 5	Frost-free periods at the tail end of spring freshet and summer.	Groundwater contaminant concentrations down-gradient of the TSCA show a stable or decreasing trend and/or remain below applicable guidelines for three consecutive monitoring events (after having obtained sufficient data to establish a trend).
Camlaren	n/a	TSCA	A.3.1	TSCA Surface Water	Verify chemical integrity of the TSCA via surface water sampling Refer to SNP Program for sampling details (SNP Station 2016-8 and 11).	Surface water contaminant concentrations down-gradient of the TSCA show an increasing trend and/or exceed applicable guidelines for three consecutive monitoring events (after having obtained sufficient data to establish a trend).	Reviewing and/or modifying the monitoring frequency and/or remedial design components may be required. Trouble-shooting of TSCA performance. Completing repairs as needed.	Bi-Annually (Spring and Summer)	Years 1 to 5	Frost-free periods at the tail end of spring freshet and summer.	Surface water contaminant concentrations down-gradient of the TSCA show a stable or decreasing trend and/or remain below applicable guidelines for three consecutive monitoring events (after having obtained sufficient data to establish a trend).
Goodrock	Metals Impacted	GOO_HS_01	A.4.2	Risk	Verify cover material is stable with no significant resulting erosion or washout.	Erosion/washout which exposes any soil and/or rills >10cm.	Re-covering/re-grading as needed.	Biennially	Years 1, 3 and 5	Snow-free periods.	Absence of major erosion/soil exposure concerns over three consecutive monitoring events.
Goodrock	Mine Openings	South Pit	A.4.2	Physical	Verify backfill material is stable with no significant resulting erosion or settlement.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.
Goodrock	Mine Openings	North Mine Shaft	A.4.2	Physical	Verify backfill material is stable with no significant resulting erosion or settlement. Verify the structural stability of the mine opening cap.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.
Goodrock	Waste Rock	GOO_WR_01	A4.1	Chemical	Verify no visual signs of ARD down-gradient of remaining impacts.	Down-gradient environment indicates signs of ARD (e.g. new loss of vegetation, stressed vegetation, discoloration, etc.).	Sampling of down-gradient soil and surface water for metals. Trouble-shooting potential sources and addressing waste rock if needed.	Quadrennially	Years 1 and 5	Summer	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring.
Goodrock	Waste Rock	GOO_WR_02	A.4.2	Chemical	Verify no visual signs of ARD down-gradient of remaining impacts.	Down-gradient environment indicates signs of ARD (e.g. new loss of vegetation, stressed vegetation, discoloration, etc.).	Sampling of down-gradient soil and surface water for metals. Trouble-shooting potential sources and addressing waste rock if needed.	Quadrennially	Years 1 and 5	Summer	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring.
Kidney Pond	Co-Mingled Impacted Soil	KID_SO_07	A.5.2	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water. Visually monitor vegetative health to confirm stable or increasing growth.	Erosion/washout concerns in nearby water and/or rills >10cm. Vegetative health observed to be decreasing (and potential erosion concerns as detailed above).	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed. May consider revegetation or ways to increase vegetative health for the purpose of erosion control.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Kidney Pond	Co-Mingled Impacted Soil	KID_SO_11	A.5.2	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water. Visually monitor vegetative health to confirm stable or increasing growth.	Erosion/washout concerns in nearby water and/or rills >10cm. Vegetative health observed to be decreasing (and potential erosion concerns as detailed above).	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed. May consider revegetation or ways to increase vegetative health for the purpose of erosion control.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Kidney Pond	PHC Impacted Soil	KID_SO_10	A.5.2	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water. Visually monitor vegetative health to confirm stable or increasing growth.	Erosion/washout concerns in nearby water and/or rills >10cm. Vegetative health observed to be decreasing (and potential erosion concerns as detailed above).	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed. May consider revegetation or ways to increase vegetative health for the purpose of erosion control.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Kidney Pond	Waste Rock	KID_WR_01	A.5.2	Erosion	Verify excavation backfill and large area of regraded material is stable with no significant resulting erosion or washout, especially into down-gradient water. Visually monitor vegetative health to confirm stable or increasing growth.	Erosion/washout concerns in nearby water and/or rills >10cm. Vegetative health observed to be decreasing (and potential erosion concerns as detailed above).	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed. May consider revegetation or ways to increase vegetative health for the purpose of erosion control.	Biennially	Years 1, 3 and 5	Frost-free periods	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring.

Table B.1
Surveillance Plan Details
Gordon Lake Group Long-Term Monitoring

Site Name	Hazard Category	Hazard Name	Phase I LTM Figure No.	Monitoring Driver	Phase I Long Term Monitoring Objectives	Triggers for Adaptive Management	Potential Mitigative Actions	Phase I LTM Frequency	Phase I LTM Duration	Target Dates	Exit Criteria
Kidney Pond	Mine Openings	Portal	A.5.2	Physical	Verify backfill material is stable with no significant resulting erosion or settlement.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.
Kidney Pond	Waste Rock	KID_WR_03	A.5.2	Chemical	Verify no visual signs of ARD down-gradient of remaining impacts.	Down-gradient environment indicates signs of ARD (e.g. new loss of vegetation, stressed vegetation, discoloration, etc.).	Sampling of down-gradient soil and surface water for metals. Trouble-shooting potential sources and addressing waste rock if needed.	Quadrennially	Years 1 and 5	Summer	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring.
Kidney Pond	Waste Rock	KID_WR_04	A.5.2	Chemical	Verify no visual signs of ARD down-gradient of remaining impacts.	Down-gradient environment indicates signs of ARD (e.g. new loss of vegetation, stressed vegetation, discoloration, etc.).	Sampling of down-gradient soil and surface water for metals. Trouble-shooting potential sources and addressing waste rock if needed.	Quadrennially	Years 1 and 5	Summer	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring.
Murray Lake	Mine Openings	Main Shaft	A.6.1	Physical	Verify backfill material is stable with no significant resulting erosion or settlement.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.
Murray Lake	Mine Openings	Deep Trench/Shaft	A.6.1	Physical	Verify backfill material is stable with no significant resulting erosion or settlement.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.
Murray Lake	Waste Rock	MUR_WR_01	A.6.1	Chemical	Verify no visual signs of ARD down-gradient of remaining impacts.	Down-gradient environment indicates signs of ARD (e.g. new loss of vegetation, stressed vegetation, discoloration, etc.).	Sampling of down-gradient soil and surface water for metals. Trouble-shooting potential sources and addressing waste rock if needed.	Quadrennially	Years 1 and 5	Summer	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring.
Murray Lake	Waste Rock	MUR_WR_02	A.6.1	Chemical	Verify no visual signs of ARD down-gradient of remaining impacts.	Down-gradient environment indicates signs of ARD (e.g. new loss of vegetation, stressed vegetation, discoloration, etc.).	Sampling of down-gradient soil and surface water for metals. Trouble-shooting potential sources and addressing waste rock if needed.	Quadrennially	Years 1 and 5	Summer	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring.
Storm Property	Mine Openings	South Mine Shaft	A.7.1	Physical	Verify backfill material is stable with no significant resulting erosion or settlement.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.
Storm Property	Mine Openings	North Mine Shaft	A.7.1	Physical	Verify backfill material is stable with no significant resulting erosion or settlement.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.
Storm Property	Waste Rock	STO_WR_01	A.7.1	Chemical	Verify no visual signs of ARD down-gradient of remaining impacts.	Down-gradient environment indicates signs of ARD (e.g. new loss of vegetation, stressed vegetation, discoloration, etc.).	Sampling of down-gradient soil and surface water for metals. Trouble-shooting potential sources and addressing waste rock if needed.	Quadrennially	Years 1 and 5	Summer	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring.
Storm Property	Waste Rock	STO_WR_02	A.7.1	Chemical	Verify no visual signs of ARD down-gradient of remaining impacts.	Down-gradient environment indicates signs of ARD (e.g. new loss of vegetation, stressed vegetation, discoloration, etc.).	Sampling of down-gradient soil and surface water for metals. Trouble-shooting potential sources and addressing waste rock if needed.	Quadrennially	Years 1 and 5	Summer	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring.
Treacy	Metals Impacted Soil	TRE_SO_01	A.8.1	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water. Visually monitor vegetative health to confirm stable or increasing growth.	Erosion/washout concerns in nearby water and/or rills >10cm. Vegetative health observed to be decreasing (and potential erosion concerns as detailed above).	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed. May consider revegetation or ways to increase vegetative health for the purpose of erosion control.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Treacy	PHC Impacted Soil	TRE_SO_02	A.8.1	Erosion	Verify excavation backfill material is stable with no significant resulting erosion or washout into down-gradient water. Visually monitor vegetative health to confirm stable or increasing growth.	Erosion/washout concerns in nearby water and/or rills >10cm. Vegetative health observed to be decreasing (and potential erosion concerns as detailed above).	Reviewing SNP surface water results (SNP Station 2016-11 especially for TSS) and increasing frequency and/or adjusting sampling locations if needed. Trouble-shooting of source and sediment/erosion control measures as needed. May consider revegetation or ways to increase vegetative health for the purpose of erosion control.	Biennially	Years 1, 3 and 5	Frost-free periods	Absence of major erosion concerns over three consecutive monitoring events.
Treacy	Trenches	East Trench	A.8.1	Physical	Verify backfill material is stable with no significant resulting erosion or settlement.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings unless otherwise authorized by authorities having jurisdiction.
Treacy	Trenches	West Trench	A.8.1	Physical	Verify backfill material is stable with no significant resulting erosion or settlement.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings unless otherwise authorized by authorities having jurisdiction.
Try Me	Mine Openings	Shaft	A9.1	Physical	Verify backfill material is stable with no significant resulting erosion or settlement. Verify the structural stability of the mine opening cap.	Major subsidence (>0.5m) of backfill is observed and/or structural concerns (e.g. deformation, cracking, etc.).	Investigation to identify cause and/or safety concerns. Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. However, inspection frequency will be reduced if the material is proven to be stable.
West Bay	Mine Openings	Open Pit	A.10.1	Physical	Verify barrier is structurally sound and remains effective.	Barrier is no longer effective due to deterioration or damage.	Completing repairs as needed.	Quadrennially	Years 1 and 5	Frost-free periods	Exit criteria are not applicable for mine openings until accepted by the authority having jurisdiction. Opportunity to re-inspect while completing TSCA performance monitoring will be taken as needed. However, inspection frequency will be reduced if the barrier is proven to be stable.

Table B.1
Surveillance Plan Details
Gordon Lake Group Long-Term Monitoring

Site Name	Hazard Category	Hazard Name	Phase I LTM Figure No.	Monitoring Driver	Phase I Long Term Monitoring Objectives	Triggers for Adaptive Management	Potential Mitigative Actions	Phase I LTM Frequency	Phase I LTM Duration	Target Dates	Exit Criteria
West Bay	Waste Rock	WES_WR_01	A.10.1	Chemical	Verify no visual signs of ARD down-gradient of remaining impacts. Verify chemistry of surrounding water bodies via surface water sampling for metals/general chemistry: • Runoff from waste rock (if available) • Pit lake (2 locations) • Wetland (2 locations) • Gordon Lake (3 locations) (locations consistent with previous supplemental assessment sample locations)	Down-gradient environment indicates signs of ARD (e.g. new loss of vegetation, stressed vegetation, discoloration, etc.). Surface water contaminant concentrations down-gradient of the waste rock areas show an increasing trend and/or exceed applicable guidelines for three consecutive monitoring events (after having obtained sufficient data to establish a trend).	Increased monitoring frequency or sampling of down-gradient soil and/or surface water for metals. Trouble-shooting potential sources and addressing waste rock if needed.	Quadrennially	Years 1 and 5	Frost-Free Periods	Future exit criteria as well as triggers for action/monitoring frequency will be based on long-term results of monitoring. Surface water contaminant concentrations surrounding the waste rock show a stable or decreasing trend and/or remain below applicable guidelines for three consecutive monitoring events (after having obtained sufficient data to establish a trend).
West Bay	Waste Rock	WES_WR_02	A.10.1	Chemical							
Various Sites	Metals and/or PHC Impacted Soil	BUR_SO_06; CAM_SO_02/13/17/24; GOO_HS_01; KID_SO_08/09/12; MUR_SO_01; STO_HS_01	N/A	Land Use	Verify that land uses do not change or result in greater exposure to contaminants of concern compared to the that assumed in the risk management approach (i.e. traditional use duration, food collection, and areas frequented). Land ownership/ approvals should remain unchanged or change to a less restrictive use. Administrative monitoring approach may include contacting local Hunters and Trappers Associations (HTAs), residents, councils, etc.	Land uses change to a more restrictive form (i.e. higher use) which results in inapplicability of the exposure scenarios defined in the risk management approach.	Revisit the risks associated with the contaminants of concern left in place via risk assessment updates. Mitigate significant risks as deemed appropriate (e.g. cover or remove impacted soil).	Quinquennially	Year 5	This is an administrative land use monitoring process that the proponent can undertake through its ongoing land stewardship process and management of land use.	Exit criteria are not applicable for monitoring of land uses . However, inspection frequency can be reduced if deemed appropriate by the authorities having jurisdiction.

Table B.2
Summary of In-situ Groundwater Quality Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample ID / LTM Station	Sample Control Number	Sample Date (DD-MMM-YY)	Easting	Northing	Stick-Up (mAGL)		Depth to Product (mBTOP)	Depth to Water (mBTOP)	Depth to Bottom (mBTOP)	Groundwater Elevation (masl)	Temperature (°C)	Conductivity (mS/cm)	Specific Conductance (µS/cm)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Dissovled Oxygen		pH	ORP (mV)	Sample Comments & Observations
			NAD83		Top of Pipe	Top of Casing										(%)	(mg/L)			
MW1	GLG-2024-00001-001	12-Jun-24	388356	6986005	0.91	1.039	ND	5.416	6.146	294.2	8.5	1.972	2877	1869	23.80	2.0	0.23	6.50	-43.4	None
	GLG-2024-00002-001	10-Jul-24			0.945	1.039	ND	5.140	6.145	294.5	5.8	1.859	2935	-	10.40	1.4	0.18	6.65	-77.8	None
	GLG-2024-00003-001	20-Aug-24			1.040	1.039	ND	5.065	6.145	294.6	5.5	1844	2941	-	365.40	2.6	0.33	6.53	-67.7	No odour, no sheen observed
	GLG-2024-00004-001	12-Sep-24			1.043	1.039	ND	5.040	6.118	294.6	5.6	1564	248.2	-	159.34	13.9	1.75	6.45	-54.5	No odour, no sheen observed
MW2	GLG-2024-00001-002	12-Jun-24	388352	6986051	0.93	0.993	ND	5.815	8.078	294.1	7.3	4.697	7088	4577	48.79	1.3	0.15	6.51	-37.7	None
	GLG-2024-00002-002	10-Jul-24			0.930	0.993	ND	5.556	8.080	294.3	6.1	4.468	7011	-	18.75	1.0	0.12	6.53	-43	None
	GLG-2024-00003-002	20-Aug-24			0.990	0.993	ND	5.010	8.100	294.9	3.5	3581	6083	-	38.82	9.3	1.23	6.45	47.6	No odour, no sheen observed
	GLG-2024-00004-002	12-Sep-24			1.000	0.993	ND	5.103	8.077	294.8	2.5	3036	531.2	-	166.48	11.9	1.62	6.46	-8.4	No odour, no sheen observed
MW3 (SNP2016-7a)	GLG-2024-00001-003	12-Jun-24	388393	6986073	0.78	0.988	ND	2.214	7.893	291.0	7.1	1.651	2509	1635	112.07	1.1	0.13	6.96	-93.9	None
	GLG-2024-00002-003	10-Jul-24			0.780	0.988	ND	2.260	7.898	290.9	7.7	1.654	2458	-	4.40	0.9	0.11	7.08	-135.3	None
	GLG-2024-00003-003	20-Aug-24			0.985	0.988	ND	2.365	7.895	290.8	7.2	1639	2467	-	176.08	2.6	0.31	6.88	-119.3	No odour, no sheen observed
	GLG-2024-00004-003	12-Sep-24			0.990	0.988	ND	2.353	7.888	290.8	5.9	1426	2250	-	148.05	9.6	1.20	6.78	-96.8	No odour, no sheen observed
MW4 (SNP2016-7b)	GLG-2024-00001-004	12-Jun-24	388376	6985962	0.55	0.843	ND	2.426	4.617	292.6	8.6	0.932	1357	884	8.76	3.4	0.39	6.58	-23.3	None
	GLG-2024-00002-004	10-Jul-24			0.550	0.843	ND	2.970	4.620	292.1	8.8	0.582	844	-	5.94	3.7	0.43	6.64	-55.2	None
	GLG-2024-00003-004	20-Aug-24			0.825	0.843	ND	3.220	4.620	291.9	11.0	564	769	-	0.00	7.5	0.83	6.47	-43.0	No odour, no sheen observed
	GLG-2024-00004-004	12-Sep-24			0.860	0.843	ND	2.604	4.593	292.5	9.4	642	914	-	175.58	12.0	1.37	6.52	49.1	No odour, no sheen observed
MW5 (SNP2016-7c)	GLG-2024-00001-005	14-Jun-24	388236	6985922	0.67	0.805	ND	4.962	5.506	292.4	7.2	0.907	1511	967	97.80	16.5	1.97	6.77	-37.4	Low recharge, partial sample collected
	GLG-2024-00002-005	10-Jul-24			0.902	0.805	ND	5.275	5.530	292.1	8.6	1.297	1890	-	18.93	11.7	2.71	7.19	-95.1	Low recharge; partial sample collected
	GLG-2024-00003-005	20-Aug-24			0.905	0.805	ND	5.320	5.532	292.1	14.0	837	1061	-	28.53	41.0	4.23	6.98	-63.2	Low recharge; partial sample collected
	GLG-2024-00004-005	12-Sep-24			0.914	0.805	ND	5.385	5.495	292.0	10.2	15.73	19.10	-	159.09	70.3	7.90	7.27	25.3	Low recharge; partial sample collected
MW6 (SNP2016-7d)	GLG-2024-00001-006	12-Jun-24	388238	6986066	0.67	0.893	ND	2.396	6.156	293.7	7.0	0.431	655	427	18.01	32.5	3.92	7.17	26.5	None
	GLG-2024-00001-006	10-Jul-24			0.670	0.893	ND	2.509	6.155	293.6	10.8	0.443	607	-	1.68	57.0	6.32	7.34	61.7	None
	GLG-2024-00003-006	20-Aug-24			0.910	0.893	ND	2.550	6.148	293.6	9.3	419.3	599	-	29.44	13.9	1.60	7.19	22.9	No odour, no sheen observed
	GLG-2024-00004-006	12-Sep-24			0.890	0.893	ND	2.695	6.155	293.4	7.4	374.5	565	-	144.30	55.2	6.63	7.40	120.2	No odour, no sheen observed
Duplicate (MW6 [SNP2016-7d])	GLG-2024-00001-019	12-Jun-24	388238	6986066	0.67	0.893	ND	2.396	6.156	293.7	7.0	0.431	655	427	18.01	32.5	3.92	7.17	26.5	None
	GLG-2024-00001-019	10-Jul-24			0.670	0.893	ND	2.509	6.155	293.6	10.8	0.443	607	-	2.68	57.0	6.32	7.34	61.7	None
	GLG-2024-00003-019	20-Aug-24			0.910	0.893	ND	2.550	6.148	293.6	9.3	419.3	599	-	29.44	13.9	1.60	7.19	22.9	No odour, no sheen observed
	GLG-2024-00004-019	12-Sep-24			0.890	0.893	ND	2.695	6.155	293.4	7.4	374.5	565	-	144.30	55.2	6.63	7.40	120.2	No odour, no sheen observed

Notes:
mAGL - Metres above ground level
mBTOP - metres below top of pipe
ND - Not detected
°C - Degree Celsius
mS/cm - Milisiemens per centimetre
µS/cm - Microsiemens per centimetre
mg/L - Milligram per litre
NTU - Nephelometric Turbidity Unit
mV - Millivolt
ORP - Oxidation/ Reduction Potential
masl - metres above sea level

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location				MW1				MW2			
Sample Date				12-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24	12-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24
Sample ID				GLG-2024-00001-001	GLG-2024-00002-001	GLG-2024-00003-001	GLG-2024-00004-001	GLG-2024-00001-002	GLG-2024-00002-002	GLG-2024-00003-002	GLG-2024-00004-002
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order				YL2400658	YL2400874	YL2401240	YL2401501	YL2400658	YL2400874	YL2401240	YL2401501
Laboratory Sample ID				YL2400658-001	YL2400874-009	YL2401240-007	YL2401501-001	YL2400658-002	YL2400874-010	YL2401240-006	YL2401501-002
Sample Type	Units	CCME	FIGQG								
General Chemistry											
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	336	317	324	302	536	536	469	482
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Total	mg/L	n/v	n/v	336	317	324	302	536	536	469	482
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	$0.0173/190_{e,d,var3}$ [B]	**1.50** [AB]	**1.10** [AB]	**1.06** [AB]	**0.972** [AB]	**2.53** [AB]	**3.03** [AB]	**0.739** [AB]	**0.904** [AB]
Chloride	mg/L	120 [A]	100 [B]	11.6	11.7	10.5	11.6	**253** [AB]	**284** [AB]	**191** [AB]	**180** [AB]
Electrical Conductivity, Lab	µS/cm	n/v	n/v	2,700	2,630	2,740	2,750	6,580	6,310	5,810	5,910
Hardness (as CaCO3), Dissolved	mg/L	n/v	n/v	1,520	1,550	1,590	1,660	1,400	1,290	1,320	1,380
Hardness (as CaCO3), Total	mg/L	n/v	n/v	-	1,570	1,650	1,670	-	1,290	1,280	1,370
Nitrate	mg/L	13 [A]	13 [B]	<0.443	<0.443	<0.443	<0.443	<1.11	<1.11	<1.11	<1.11
Nitrate (as N)	mg/L	3.0 [A]	3_{s12} [B]	<0.100 DLDS	<0.100 DLDS	<0.100 DLDS	<0.100 DLDS	<0.250 DLDS	<0.250 DLDS	<0.250 DLDS	<0.250 DLDS
Nitrate + Nitrite (as N)	mg/L	n/v	100 [B]	<0.102	<0.102	<0.102	<0.102	<0.255	<0.255	<0.255	<0.255
Nitrite	mg/L	0.197_{n1} [A]	0.20_{s13} [B]	<0.0656	<0.0656	<0.0656	<0.0656	<0.164	<0.164	<0.164	<0.164
Nitrite (as N)	mg/L	0.06 [A]	0.06 [B]	<0.0200 DLDS	<0.0200 DLDS	<0.0200 DLDS	<0.0200 DLDS	<0.0500 DLDS	<0.0500 DLDS	<0.0500 DLDS	<0.0500 DLDS
Orthophosphate (as P)	mg/L	n/v	n/v	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
pH, lab	S.U.	6.5-9.0 [A]	6.5-9 [B]	7.57	7.43	7.81	7.43	7.97	7.69	8.08	8.00
Phenolphthalein Alkalinity	mg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phosphorus, Total	mg/L	n/v	n/v	0.0236	0.0125	0.0206	0.0140	0.0572	0.126	0.0302	0.0504
Sulfate	mg/L	n/v	100 [B]	**1,370** [B]	**1,480** [B]	**1,510** [B]	**1,490** [B]	**3,100** [B]	**3,450** [B]	**3,030** [B]	**2,870** [B]
Total Dissolved Solids	mg/L	n/v	3,000 [B]	2,440	2,600	2,350	2,610	**5,680** [B]	**5,390** [B]	**4,500** [B]	**5,070** [B]
Total Organic Carbon	mg/L	n/v	n/v	3.37	3.38	4.15	2.97	13.0	12.8	10.2	9.92
Total Suspended Solids	mg/L	$_{SN}$ [A]	n/v	65.1	56.9	54.8	45.4	38.5	34.6	3.8	3.8
BTEX and Petroleum Hydrocarbons											
Benzene	µg/L	370 [A]	88 [B]	1.45	3.38	3.05	3.06	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	2 [A]	83 [B]	1.11	**3.15** [A]	**2.45** [A]	**2.23** [A]	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	90 [A]	3,200 [B]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m & p-	µg/L	n/v	$_{s1}$ [B]	0.62	0.99	0.61	0.77	<0.50	<0.40	<0.50	<0.50
Xylene, o-	µg/L	n/v	$_{s1}$ [B]	<0.50	0.52	<0.50	<0.50	<0.50	<0.30	<0.50	<0.50
Xylenes, Total	µg/L	n/v	3,900 [B]	<0.75	1.51	<0.75	0.77	<0.75	<0.50	<0.75	<0.75
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	340 [B]	-	<0.50	-	-	-	<0.50	-	-
Styrene	µg/L	72 [A]	72 [B]	-	<0.50	-	-	-	<0.50	-	-
PHC F1 (C6-C10 range)	µg/L	n/v	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F1 (C6-C10 range) minus BTE	µg/L	n/v	810 [B]	<100	<100	<100	<100	<100	<100	<100	<100
PHC F2 (>C10-C16 range)	µg/L	n/v	1,300 [B]	110	<100	140	110	<100	<100	<100	<100
PHC F3 (>C16-C34 range)	µg/L	n/v	n/v	<250	<100	<250	<250	<250	<100	<250	<250
PHC F4 (>C34-C50 range)	µg/L	n/v	n/v	<250	<300	<250	<250	<250	<300	<250	<250
Total BTEX (Calc)	µg/L	n/v	n/v	3.2	<300	6.1	6.1	<1.2	<300	<1.2	<1.2
Total Hydrocarbons (C6-C50)	µg/L	n/v	n/v	<400	<300	<400	<400	<400	<300	<400	<400
Metals, Dissolved											
Calcium	mg/L	n/v	n/v	424	430	415	454	386	389	381	401
Magnesium	mg/L	n/v	n/v	111	116	135	129	105	78.4	88.7	93.4
Potassium	mg/L	n/v	n/v	53.4	48.2	51.8	50.4	81.2	70.5	73.8	73.3
Sodium	mg/L	n/v	n/v	93.5	72.2	62.8	61.2	1,540	1,260	1,000	925

See Notes on last page.

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location				MW1				MW2			
Sample Date				12-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24	12-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24
Sample ID				GLG-2024-00001-001	GLG-2024-00002-001	GLG-2024-00003-001	GLG-2024-00004-001	GLG-2024-00001-002	GLG-2024-00002-002	GLG-2024-00003-002	GLG-2024-00004-002
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order				YL2400658	YL2400874	YL2401240	YL2401501	YL2400658	YL2400874	YL2401240	YL2401501
Laboratory Sample ID				YL2400658-001	YL2400874-009	YL2401240-007	YL2401501-001	YL2400658-002	YL2400874-010	YL2401240-006	YL2401501-002
Sample Type	Units	CCME	FIGQG								
Metals, Total											
Aluminum	mg/L	0.005/0.1$_{VAR1}$[A]	0.005/0.1$_{e,d,VAR1}$[B]	**0.132**[AB]	0.0998	**0.107**[AB]	**0.112**[AB]	0.0347	0.0309	0.0256	0.0150
Antimony	mg/L	n/v	2[B]	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	0.00074	<0.00050 DLA	0.00082	0.00072
Arsenic	mg/L	0.005[A]	0.005[B]	**0.0145**[AB]	**0.0108**[AB]	**0.0139**[AB]	**0.0217**[AB]	**0.0988**[AB]	**0.0756**[AB]	**0.0207**[AB]	**0.0375**[AB]
Barium	mg/L	n/v	0.5[B]	0.0236	0.0202	0.0226	0.0227	0.0223	0.0244	0.0156	0.0145
Beryllium	mg/L	n/v	0.0053[B]	<0.000040 DLA	<0.000200 DLA	<0.000100	<0.000100	<0.000100 DLA	<0.000100	<0.000100	<0.000100
Bismuth	mg/L	n/v	n/v	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000250 DLA	<0.000250 DLA	<0.000250 DLA	<0.000250 DLA
Boron	mg/L	1.5[A]	0.5[B]	0.129	0.143	0.150	0.147	0.138	0.145	0.146	0.150
Cadmium	mg/L	0.00009$_{LTG}$[A]	0.00009$_{c}$[B]	0.000341	0.000269	**0.000228**[AB]	**0.000401**[AB]	**0.00309**[AB]	**0.00153**[AB]	**0.0121**[AB]	**0.0131**[AB]
Calcium	mg/L	n/v	n/v	445	436	449	454	406	380	378	398
Cesium	mg/L	n/v	n/v	0.000040	0.000028	0.000028	0.000035	<0.000050 DLA	<0.000050 DLA	<0.000050 DLA	<0.000050 DLA
Chromium	mg/L	n/v	0.0089$_{e}$[B]	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00250 DLA	<0.00250 DLA	<0.00250 DLA	<0.00250 DLA
Cobalt	mg/L	n/v	0.05[B]	0.0147	0.0138	0.0135	0.0152	**0.466**[B]	**0.369**[B]	**0.675**[B]	**0.639**[B]
Copper	mg/L	0.002/0.004$_{TBC1}$[A]	0.002/0.004$_{e,d,TBC1}$[B]	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00250 DLA	0.00269	<0.00250 DLA	<0.00250 DLA
Iron	mg/L	0.3[A]	0.3[B]	**42.8**[AB]	**43.0**[AB]	**46.4**[AB]	**44.0**[AB]	**19.8**[AB]	**21.3**[AB]	**1.35**[AB]	**2.45**[AB]
Lead	mg/L	0.001/0.007$_{TBC1}$[A]	0.001/0.007$_{e,d,TBC1}$[B]	0.000558	0.000428	0.000489	0.000604	0.00166	0.00139	0.000442	0.000451
Lithium	mg/L	n/v	n/v	0.0278	0.0265	0.0272	0.0326	0.0378	0.0364	0.0361	0.0399
Magnesium	mg/L	n/v	n/v	116	116	129	131	86.6	82.8	81.8	92.0
Manganese	mg/L	n/v	0.2[B]	**1.46**[AB]	**1.12**[AB]	**1.08**[B]	**1.26**[B]	**11.1**[AB]	**10.5**[AB]	**10.9**[B]	**11.1**[B]
Mercury	mg/L	0.000026[A]	0.000026$_{e}$[B]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum	mg/L	0.073[A]	0.073[B]	0.000804	0.000895	0.000785	0.000889	0.00544	0.00506	0.00444	0.00433
Nickel	mg/L	0.025/0.15$_{TBC1}$[A]	0.025/0.15$_{e,d,TBC1}$[B]	0.00939	0.00681	0.00557	0.00555	**0.799**[AB]	**0.624**[AB]	**1.63**[AB]	**1.64**[AB]
Phosphorus	mg/L	n/v	n/v	<0.100 DLA	<0.100 DLA	<0.100 DLA	<0.100 DLA	<0.250 DLA	<0.250 DLA	<0.250 DLA	<0.250 DLA
Potassium	mg/L	n/v	n/v	54.2	48.8	52.5	53.2	76.9	71.5	73.2	76.6
Rubidium	mg/L	n/v	n/v	0.00765	0.00455	0.00448	0.00459	0.00586	0.00664	0.00272	0.00248
Selenium	mg/L	0.001[A]	0.001[B]	0.000141	<0.000100 DLA	0.000234	0.000144	0.000913	0.000665	**0.00106**[AB]	0.000970
Silicon	mg/L	n/v	n/v	12.9	11.8	12.8	12.4	9.58	10.0	6.93	6.65
Silver	mg/L	0.00025[A]	0.00025[B]	0.000020	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	0.000064	0.000051	<0.000050 DLA	<0.000050 DLA
Sodium	mg/L	n/v	n/v	98.8	71.4	60.7	66.9	1,340	1,260	1,000	991
Strontium	mg/L	n/v	n/v	4.30	4.54	4.82	4.93	3.52	3.56	3.65	3.57
Sulfur	mg/L	n/v	n/v	523	540	565	537	1,140	1,120	1,060	996
Tellurium	mg/L	n/v	n/v	0.00040	0.00059	0.00071	0.00058	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA
Thallium	mg/L	0.0008[A]	0.0008[B]	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	<0.000050 DLA	<0.000050 DLA	0.000053	<0.000050 DLA
Thorium	mg/L	n/v	n/v	<0.00020 DLA	<0.00030 DLM	<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	<0.00050 DLA	<0.00050 DLA	<0.00050 DLA
Tin	mg/L	n/v	n/v	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	<0.00050 DLA	<0.00050 DLA	<0.00050 DLA
Titanium	mg/L	n/v	0.1[B]	<0.00060 DLA	<0.00060 DLA	<0.00060 DLA	<0.00060 DLA	<0.00150 DLA	<0.00150 DLA	<0.00150 DLA	<0.00150 DLA
Tungsten	mg/L	n/v	n/v	0.00059	0.00112	0.00149	0.00126	0.00087	0.00070	<0.00050 DLA	<0.00050 DLA
Uranium	mg/L	0.015[A]	0.01[B]	0.00111	0.000864	0.000836	0.00105	**0.0116**[B]	**0.0112**[B]	0.00910	0.0100
Vanadium	mg/L	n/v	0.1[B]	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00250 DLA	<0.00250 DLA	<0.00250 DLA	<0.00250 DLA
Zinc	mg/L	n/v	0.01[B]	**0.0659**[B]	**0.0458**[B]	**0.0385**[B]	**0.0523**[B]	**3.04**[AB]	**1.83**[AB]	**5.23**[B]	**5.08**[B]
Zirconium	mg/L	n/v	n/v	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	<0.00180 DLM	0.00155	<0.00100 DLA	<0.00100 DLA

See Notes on last page.

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location				MW3 (SNP 2016-7a)				MW4 (SNP 2016-7b)			
Sample Date				12-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24	12-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24
Sample ID				GLG-2024-00001-003	GLG-2024-00002-003	GLG-2024-00003-003	GLG-2024-00004-003	GLG-2024-00001-004	GLG-2024-00002-004	GLG-2024-00003-004	GLG-2024-00004-004
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order				YL2400658	YL2400874	YL2401240	YL2401501	YL2400658	YL2400874	YL2401240	YL2401501
Laboratory Sample ID				YL2400658-003	YL2400874-007	YL2401240-005	YL2401501-003	YL2400658-004	YL2400874-008	YL2401240-004	YL2401501-004
Sample Type	Units	CCME	FIGQG								
General Chemistry											
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	855	801	731	717	239	250	276	228
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Total	mg/L	n/v	n/v	855	801	731	717	239	250	276	228
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	$0.0173/190_{e,d,var3}$ [B]	**1.31** [AB]	**1.38** [AB]	**1.69** [AB]	**1.85** [AB]	**0.752** [AB]	**0.289** [AB]	**0.326** [AB]	0.200
Chloride	mg/L	120 [A]	100 [B]	31.7	33.0	32.0	35.2	9.13	3.42	2.80	3.59
Electrical Conductivity, Lab	µS/cm	n/v	n/v	2,290	2,180	2,260	2,380	1,240	822	798	847
Hardness (as CaCO3), Dissolved	mg/L	n/v	n/v	1,320	1,170	1,200	1,210	624	375	392	438
Hardness (as CaCO3), Total	mg/L	n/v	n/v	-	1,190	1,200	1,230	-	386	381	427
Nitrate	mg/L	13 [A]	13 [B]	<0.443	<0.443	<0.443	0.474	<0.111	<0.111	<0.111	0.287
Nitrate (as N)	mg/L	3.0 [A]	3_{s12} [B]	<0.100 DLDS	<0.100 DLDS	<0.100 DLDS	0.107	<0.0250 DLDS	<0.0250 DLDS	<0.0250 DLDS	0.0649
Nitrate + Nitrite (as N)	mg/L	n/v	100 [B]	<0.102	<0.102	<0.102	0.107	<0.0255	<0.0255	<0.0255	0.0700
Nitrite	mg/L	0.197_{n1} [A]	0.20_{s13} [B]	<0.0656	<0.0656	<0.0656	<0.0656	<0.0164	0.0174	<0.0164	0.0167
Nitrite (as N)	mg/L	0.06 [A]	0.06 [B]	<0.0200 DLDS	<0.0200 DLDS	<0.0200 DLDS	<0.0200 DLDS	<0.0050 DLDS	0.0053	<0.0050 DLDS	0.0051
Orthophosphate (as P)	mg/L	n/v	n/v	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
pH, lab	S.U.	6.5-9.0 [A]	6.5-9 [B]	7.45	7.42	7.90	7.71	7.72	7.67	7.64	8.03
Phenolphthalein Alkalinity	mg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phosphorus, Total	mg/L	n/v	n/v	0.0980	0.121	0.102	0.102	<0.0020	0.0204	0.0219	0.0172
Sulfate	mg/L	n/v	100 [B]	**563** [B]	**601** [B]	**661** [B]	**739** [B]	**460** [B]	**217** [B]	**162** [B]	**238** [B]
Total Dissolved Solids	mg/L	n/v	3,000 [B]	1,840	1,860	1,730	1,970	946	628	504	655
Total Organic Carbon	mg/L	n/v	n/v	19.5	18.4	19.0	21.6	11.8	10.7	10.5	13.2
Total Suspended Solids	mg/L	$_{SN}$ [A]	n/v	39.7	39.8	51.0	53.2	27.3	15.7	21.3	3.8
BTEX and Petroleum Hydrocarbons											
Benzene	µg/L	370 [A]	88 [B]	<0.50	<0.50	<0.50	<0.50	0.60	<0.50	<0.50	<0.50
Toluene	µg/L	2 [A]	83 [B]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	90 [A]	3,200 [B]	<0.50	<0.50	<0.50	<0.50	2.47	2.78	1.78	<0.50
Xylene, m & p-	µg/L	n/v	$_{s1}$ [B]	<0.50	<0.40	<0.50	<0.50	3.00	3.10	1.79	<0.50
Xylene, o-	µg/L	n/v	$_{s1}$ [B]	<0.50	<0.30	<0.50	<0.50	<0.50	<0.30	<0.50	<0.50
Xylenes, Total	µg/L	n/v	3,900 [B]	<0.75	<0.50	<0.75	<0.75	3.00	3.10	1.79	<0.75
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	340 [B]	-	<0.50	-	-	-	<0.50	-	-
Styrene	µg/L	72 [A]	72 [B]	-	<0.50	-	-	-	<0.50	-	-
PHC F1 (C6-C10 range)	µg/L	n/v	n/v	<100	<100	<100	<100	<100	110	<100	<100
PHC F1 (C6-C10 range) minus BTE	µg/L	n/v	810 [B]	<100	<100	<100	<100	<100	110	<100	<100
PHC F2 (>C10-C16 range)	µg/L	n/v	1,300 [B]	<100	<100	<100	<100	1,180	104	1,190	170
PHC F3 (>C16-C34 range)	µg/L	n/v	n/v	<250	<100	<250	<250	<250	100	<250	<250
PHC F4 (>C34-C50 range)	µg/L	n/v	n/v	<250	<300	<250	<250	<250	840	<250	<250
Total BTEX (Calc)	µg/L	n/v	n/v	<1.2	<300	<1.2	<1.2	6.1	<300	3.6	<1.2
Total Hydrocarbons (C6-C50)	µg/L	n/v	n/v	<400	<300	<400	<400	1,180	<300	1,190	<400
Metals, Dissolved											
Calcium	mg/L	n/v	n/v	364	322	323	330	192	122	130	143
Magnesium	mg/L	n/v	n/v	100	88.5	95.7	93.8	35.2	17.1	16.4	19.7
Potassium	mg/L	n/v	n/v	25.8	23.8	26.3	25.3	6.41	4.36	4.50	4.45
Sodium	mg/L	n/v	n/v	116	113	120	118	40.8	17.3	15.6	20.5

See Notes on last page.

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location				MW3 (SNP 2016-7a)				MW4 (SNP 2016-7b)			
Sample Date				12-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24	12-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24
Sample ID				GLG-2024-00001-003	GLG-2024-00002-003	GLG-2024-00003-003	GLG-2024-00004-003	GLG-2024-00001-004	GLG-2024-00002-004	GLG-2024-00003-004	GLG-2024-00004-004
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order				YL2400658	YL2400874	YL2401240	YL2401501	YL2400658	YL2400874	YL2401240	YL2401501
Laboratory Sample ID				YL2400658-003	YL2400874-007	YL2401240-005	YL2401501-003	YL2400658-004	YL2400874-008	YL2401240-004	YL2401501-004
Sample Type	Units	CCME	FIGQG								
Metals, Total											
Aluminum	mg/L	$0.005/0.1_{VAR1}$[A]	$0.005/0.1_{e,d,VAR1}$[B]	0.0155	0.0128	0.0241	0.0278	0.0537	0.0459	0.0417	0.0354
Antimony	mg/L	n/v	2[B]	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00010	0.00027	0.00020	0.00030	0.00055
Arsenic	mg/L	0.005[A]	0.005[B]	**0.0170[AB]**	**0.0181[AB]**	**0.0168[AB]**	**0.0172[AB]**	**0.0294[AB]**	**0.0283[AB]**	**0.0223[AB]**	**0.00529[AB]**
Barium	mg/L	n/v	0.5[B]	0.261	0.242	0.269	0.281	0.0534	0.0340	0.0522	0.0508
Beryllium	mg/L	n/v	0.0053[B]	<0.000040 DLA	<0.000100	<0.000100 DLA	<0.000100	<0.000040 DLA	<0.000100	<0.000100	<0.000100
Bismuth	mg/L	n/v	n/v	<0.000100 DLA	<0.000050	<0.000100 DLA	<0.000050	<0.000100 DLA	<0.000050	<0.000100 DLA	<0.000050
Boron	mg/L	1.5[A]	0.5[B]	0.096	0.106	0.104	0.110	<0.020 DLA	0.025	0.037	0.026
Cadmium	mg/L	0.00009_{LTG}[A]	0.00009_{c}[B]	<0.0000100 DLA	<0.0000050	0.0000113	0.0000050	0.0000433	0.0000521	**0.000128[AB]**	0.000153
Calcium	mg/L	n/v	n/v	340	334	334	343	184	127	127	141
Cesium	mg/L	n/v	n/v	<0.000020 DLA	<0.000010	<0.000020 DLA	<0.000010	0.000022	0.000013	<0.000020 DLA	0.000015
Chromium	mg/L	n/v	0.0089_{e}[B]	<0.00100 DLA	<0.00050	<0.00100 DLA	0.00065	<0.00100 DLA	0.00054	<0.00100 DLA	<0.00050
Cobalt	mg/L	n/v	0.05[B]	0.0214	0.0198	0.0216	0.0242	0.0130	0.00752	0.00506	0.00671
Copper	mg/L	$0.002/0.004_{TBC1}$[A]	$0.002/0.004_{e,d,TBC1}$[B]	<0.00100 DLA	<0.00050	<0.00100 DLA	<0.00050	0.00212	0.00249	**0.00653[AB]**	**0.00628[AB]**
Iron	mg/L	0.3[A]	0.3[B]	**14.3[AB]**	**15.9[AB]**	**20.2[AB]**	**22.6[AB]**	**12.1[AB]**	**7.81[AB]**	**9.53[AB]**	**1.73[AB]**
Lead	mg/L	$0.001/0.007_{TBC1}$[A]	$0.001/0.007_{e,d,TBC1}$[B]	<0.000100 DLA	<0.000050	<0.000100 DLA	<0.000050	0.000587	0.00113	0.00230	0.00110
Lithium	mg/L	n/v	n/v	0.0294	0.0300	0.0282	0.0328	0.0029	0.0030	0.0042	0.0039
Magnesium	mg/L	n/v	n/v	99.4	87.4	87.8	91.6	35.9	16.8	15.6	18.2
Manganese	mg/L	n/v	0.2[B]	**3.92[AB]**	**3.89[AB]**	**4.23[B]**	**4.48[B]**	**10.7[AB]**	**5.34[AB]**	**5.44[B]**	**5.10[B]**
Mercury	mg/L	0.000026[A]	0.000026_{e}[B]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum	mg/L	0.073[A]	0.073[B]	0.000656	0.000774	0.00117	0.00108	0.00223	0.00178	0.00178	0.00237
Nickel	mg/L	$0.025/0.15_{TBC1}$[A]	$0.025/0.15_{e,d,TBC1}$[B]	0.00219	0.00170	0.00147	0.00129	0.0336	0.0182	0.0152	0.0171
Phosphorus	mg/L	n/v	n/v	0.131	0.128	0.108	0.098	<0.100 DLA	<0.050	<0.100 DLA	<0.050
Potassium	mg/L	n/v	n/v	25.7	23.1	25.5	26.3	6.50	4.06	4.92	4.34
Rubidium	mg/L	n/v	n/v	0.00159	0.00148	0.00170	0.00175	0.00344	0.00210	0.00316	0.00337
Selenium	mg/L	0.001[A]	0.001[B]	0.000177	0.000186	0.000162	0.000162	0.000152	0.000092	0.000107	0.000135
Silicon	mg/L	n/v	n/v	12.0	11.3	10.4	10.6	6.80	6.35	8.03	7.59
Silver	mg/L	0.00025[A]	0.00025[B]	<0.000020 DLA	<0.000010	<0.000020 DLA	0.000011	0.000048	0.000027	0.000032	0.000031
Sodium	mg/L	n/v	n/v	120	113	113	122	43.1	17.1	15.4	18.1
Strontium	mg/L	n/v	n/v	2.16	2.25	2.20	2.24	0.604	0.424	0.427	0.447
Sulfur	mg/L	n/v	n/v	206	214	231	272	167	70.9	61.9	83.1
Tellurium	mg/L	n/v	n/v	<0.00040 DLA	0.00040	<0.00040 DLA	0.00031	<0.00040 DLA	<0.00020	<0.00040 DLA	<0.00020
Thallium	mg/L	0.0008[A]	0.0008[B]	<0.000020 DLA	<0.000010	<0.000020 DLA	<0.000010	<0.000020 DLA	<0.000010	<0.000020 DLA	<0.000010
Thorium	mg/L	n/v	n/v	<0.00020 DLA	<0.00010	<0.00020 DLA	0.00011	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00010
Tin	mg/L	n/v	n/v	<0.00020 DLA	<0.00010	<0.00020 DLA	0.00013	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00010
Titanium	mg/L	n/v	0.1[B]	0.00141 DLM	<0.00180 DLM	<0.00180 DLM	<0.00240 DLM	<0.00060 DLA	0.00043	<0.00060 DLA	<0.00030
Tungsten	mg/L	n/v	n/v	<0.00020 DLA	0.00015	0.00044	0.00050	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00010
Uranium	mg/L	0.015[A]	0.01[B]	**0.0121[B]**	**0.0121[B]**	**0.0118[B]**	**0.0133[B]**	0.00148	0.000989	0.000730	0.00112
Vanadium	mg/L	n/v	0.1[B]	0.00132	0.00122	0.00136	0.00166	<0.00100 DLA	<0.00050	<0.00100 DLA	<0.00050
Zinc	mg/L	n/v	0.01[B]	<0.0060 DLA	<0.0030	<0.0060 DLA	<0.0030	0.0073	0.0046	<0.0060 DLA	0.0043
Zirconium	mg/L	n/v	n/v	0.00308	0.00343	<0.00320 DLM	0.00341	<0.00040 DLA	<0.00040 DLM	<0.00040 DLA	0.00023

See Notes on last page.

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location				MW5 (SNP 2016-7c)				MW6 (SNP 2016-7d)								MW6
Sample Date				14-Jun-24	16-Jul-24	20-Aug-24	12-Sep-24	12-Jun-24			10-Jul-24			20-Aug-24		
Sample ID				GLG-2024-00001-005	GLG-2024-00002-005	GLG-2024-00003-005	GLG-2024-00004-005	GLG-2024-00001-006	GLG-2024-00001-019		GLG-2024-00002-006	GLG-2024-00002-019		GLG-2024-00003-006	GLG-2024-00003-019	
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC			STANTEC			STANTEC		
Laboratory				ALS	ALS	ALS	ALS	ALS			ALS			ALS		
Laboratory Work Order				YL2400673	YL2400921	YL2401240	YL2401501	YL2400658			YL2400874			YL2401240		
Laboratory Sample ID				YL2400673-005	YL2400921-001	YL2401240-001	YL2401501-005	YL2400658-005	YL2400658-006	RPD	YL2400874-005	YL2400874-006	RPD	YL2401240-002	YL2401240-003	
Sample Type	Units	CCME	FIGQG						BFD	(%)		BFD	(%)		BFD	
General Chemistry																
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	290	-	-	-	189	191	1%	168	167	1%	169	170	
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	-	-	-	<1.0	<1.0	nc	3.4	6.0	nc	<1.0	<1.0	
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	n/v	<1.0	-	-	-	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	
Alkalinity, Total	mg/L	n/v	n/v	290	-	-	-	189	191	1%	171	173	1%	169	170	
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	$0.0173/190_{e,d,var3}$ [B]	0.105	**0.396** [AB]	**0.202** [AB]	0.0762	0.0098	0.0066	39%	<0.0050	<0.0050	nc	0.0059	0.0116	
Chloride	mg/L	120 [A]	100 [B]	4.03	-	-	-	0.84	0.81	4%	0.88	0.87	1%	1.09	1.03	
Electrical Conductivity, Lab	µS/cm	n/v	n/v	1,200	-	-	-	625	625	0%	570	570	0%	579	582	
Hardness (as CaCO3), Dissolved	mg/L	n/v	n/v	654	-	1,060	-	332	322	3%	288	292	1%	300	301	
Hardness (as CaCO3), Total	mg/L	n/v	n/v	613	1,320	1,090	1,230	-	-	-	312	296	5%	273	308	
Nitrate	mg/L	13 [A]	13 [B]	0.801	-	-	-	12.2	12.1	1%	**16.5** [AB]	**16.4** [AB]	1%	**20.1** [AB]	**20.0** [AB]	
Nitrate (as N)	mg/L	3.0 [A]	3_{s12} [B]	0.181	-	-	-	2.76	2.73	1%	**3.72** [AB]	**3.71** [AB]	0%	**4.54** [AB]	**4.53** [AB]	
Nitrate + Nitrite (as N)	mg/L	n/v	100 [B]	0.181	-	-	-	2.76	2.74	1%	3.72	3.71	0%	4.54	4.53	
Nitrite	mg/L	0.197_{n1} [A]	0.20_{s13} [B]	<0.0164	-	-	-	0.0167	0.0167	0%	0.0052	0.0046	12%	0.0157	0.0154	
Nitrite (as N)	mg/L	0.06 [A]	0.06 [B]	<0.0050 DLDS	-	-	-	0.0051	0.0051	0%	0.0016	0.0014	13%	0.0048	0.0047	
Orthophosphate (as P)	mg/L	n/v	n/v	<0.0010	-	-	-	0.0072	0.0092	24%	0.0132	0.0137	4%	0.0082	0.0074	
pH, lab	S.U.	6.5-9.0 [A]	6.5-9 [B]	8.14	-	-	-	8.25	8.29	0%	8.36	8.39	0%	8.27	8.26	
Phenolphthalein Alkalinity	mg/L	n/v	n/v	<1.0	-	-	-	<1.0	<1.0	nc	1.7	3.0	nc	<1.0	<1.0	
Phosphorus, Total	mg/L	n/v	n/v	0.0388	0.109	0.0095	0.123	0.0206	0.0202	2%	0.0179	0.0176	2%	0.0179	0.0176	
Sulfate	mg/L	n/v	100 [B]	**400** [B]	-	-	-	**139** [B]	**138** [B]	1%	**127** [B]	**127** [B]	0%	**121** [B]	**122** [B]	
Total Dissolved Solids	mg/L	n/v	3,000 [B]	908	-	-	-	436	411	6%	395	420	6%	369	385	
Total Organic Carbon	mg/L	n/v	n/v	4.75	7.72	7.37	9.62	3.74	4.77	24%	4.04	4.16	3%	4.46	4.05	
Total Suspended Solids	mg/L	$_{SN}$ [A]	n/v	12.8	-	-	-	2.1	1.7	21%	<1.0	<1.0	nc	<1.0	<1.0	
BTEX and Petroleum Hydrocarbons																
Benzene	µg/L	370 [A]	88 [B]	-	-	-	-	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.50	<0.50	
Toluene	µg/L	2 [A]	83 [B]	-	-	-	-	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.50	<0.50	
Ethylbenzene	µg/L	90 [A]	3,200 [B]	-	-	-	-	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.50	<0.50	
Xylene, m & p-	µg/L	n/v	$_{s1}$ [B]	-	-	-	-	<0.50	<0.50	nc	<0.40	<0.40	nc	<0.50	<0.50	
Xylene, o-	µg/L	n/v	$_{s1}$ [B]	-	-	-	-	<0.50	<0.50	nc	<0.30	<0.30	nc	<0.50	<0.50	
Xylenes, Total	µg/L	n/v	3,900 [B]	-	-	-	-	<0.75	<0.75	nc	<0.50	<0.50	nc	<0.75	<0.75	
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	340 [B]	-	-	-	<0.50	-	-	-	<0.50	<0.50	nc	-	-	
Styrene	µg/L	72 [A]	72 [B]	-	-	-	<0.50	-	-	-	<0.50	<0.50	nc	-	-	
PHC F1 (C6-C10 range)	µg/L	n/v	n/v	-	-	-	-	<100	<100	nc	<100	<100	nc	<100	<100	
PHC F1 (C6-C10 range) minus BTE	µg/L	n/v	810 [B]	-	-	-	-	<100	<100	nc	<100	<100	nc	<100	<100	
PHC F2 (>C10-C16 range)	µg/L	n/v	1,300 [B]	-	-	-	-	<100	<100	nc	<100	<100	nc	<100	<100	
PHC F3 (>C16-C34 range)	µg/L	n/v	n/v	-	-	-	-	<250	<250	nc	<100	<100	nc	<250	<250	
PHC F4 (>C34-C50 range)	µg/L	n/v	n/v	-	-	-	-	<250	<250	nc	<300	<300	nc	<250	<250	
Total BTEX (Calc)	µg/L	n/v	n/v	-	-	-	-	<1.2	<1.2	nc	<300	<300	nc	<1.2	<1.2	
Total Hydrocarbons (C6-C50)	µg/L	n/v	n/v	-	-	-	-	<400	<400	nc	<300	<300	nc	<400	<400	
Metals, Dissolved																
Calcium	mg/L	n/v	n/v	222	-	364	-	115	111	4%	99.4	101	2%	103	103	
Magnesium	mg/L	n/v	n/v	24.1	-	37.5	-	10.8	10.9	1%	9.61	9.74	1%	10.4	10.6	
Potassium	mg/L	n/v	n/v	10.8	-	14.6	-	2.10	2.03	3%	1.81	1.76	3%	1.72	1.80	
Sodium	mg/L	n/v	n/v	29.9	-	45.2	-	3.41	3.30	3%	3.35	3.27	2%	3.35	3.51	

See Notes on last page.

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location				MW5 (SNP 2016-7c)				MW6 (SNP 2016-7d)								MW(	
Sample Date				14-Jun-24	16-Jul-24	20-Aug-24	12-Sep-24	12-Jun-24			10-Jul-24			20-Aug-24			
Sample ID				GLG-2024-00001-005	GLG-2024-00002-005	GLG-2024-00003-005	GLG-2024-00004-005	GLG-2024-00001-006	GLG-2024-00001-019		GLG-2024-00002-006	GLG-2024-00002-019		GLG-2024-00003-006	GLG-2024-00003-019		
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC			STANTEC			STANTEC			
Laboratory				ALS	ALS	ALS	ALS	ALS			ALS			ALS			
Laboratory Work Order				YL2400673	YL2400921	YL2401240	YL2401501	YL2400658			YL2400874			YL2401240			
Laboratory Sample ID				YL2400673-005	YL2400921-001	YL2401240-001	YL2401501-005	YL2400658-005	YL2400658-006	RPD	YL2400874-005	YL2400874-006	RPD	YL2401240-002	YL2401240-003		
Sample Type	Units	CCME	FIGQG						BFD	(%)		BFD	(%)		BFD		
Metals, Total																	
Aluminum	mg/L	0.005/0.1$_{VAR1}$[A]	0.005/0.1$_{e,d,VAR1}$[B]	0.0118	**0.246**[AB]	0.0375	**0.141**[AB]	0.0633	0.0552	14%	0.0053	0.0048	10%	0.0050	0.0048		
Antimony	mg/L	n/v	2[B]	0.00068	0.00114	0.00093	0.00069	0.00405	0.00405	0%	0.00488	0.00471	4%	0.00476	0.00510		
Arsenic	mg/L	0.005[A]	0.005[B]	**0.00760**[AB]	**0.00757**[AB]	**0.0155**[AB]	**0.0202**[AB]	0.00419	0.00410	2%	0.00380	0.00379	0%	0.00416	0.00411		
Barium	mg/L	n/v	0.5[B]	0.0298	0.0643	0.0525	0.0563	0.0317	0.0316	0%	0.0255	0.0247	3%	0.0264	0.0263		
Beryllium	mg/L	n/v	0.0053[B]	<0.000100	<0.000100 DLA	<0.000100	<0.000100	<0.000020	<0.000020	nc	<0.000100	<0.000100	nc	<0.000100	<0.000100		
Bismuth	mg/L	n/v	n/v	<0.000050	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	<0.000050	<0.000050		
Boron	mg/L	1.5[A]	0.5[B]	0.050	0.048	0.072	0.072	0.011	0.011	0%	0.010	<0.010	nc	<0.010	<0.010		
Cadmium	mg/L	0.00009$_{LTG}$[A]	0.00009$_{c}$[B]	0.0000265	0.0000860	0.0000672	0.0000815	0.0000229	0.0000202	13%	0.0000154	0.0000129	18%	0.0000130	0.0000162		
Calcium	mg/L	n/v	n/v	207	465	374	428	115	119	3%	109	103	6%	93.2	107		
Cesium	mg/L	n/v	n/v	<0.000010	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010	<0.000010	nc	<0.000010	<0.000010	nc	<0.000010	<0.000010		
Chromium	mg/L	n/v	0.0089$_{e}$[B]	<0.00050	0.00110	0.00141	0.00116	<0.00050	<0.00050	nc	<0.00050	<0.00050	nc	<0.00050	<0.00050		
Cobalt	mg/L	n/v	0.05[B]	0.00648	0.0147	0.0118	0.0117	0.00044	0.00042	5%	0.00019	0.00019	0%	0.00021	0.00022		
Copper	mg/L	0.002/0.004$_{TBC1}$[A]	0.002/0.004$_{e,d,TBC1}$[B]	0.00072	0.00195	0.00140	0.00184	0.00199	0.00204	2%	0.00124	0.00122	2%	0.00135	0.00124		
Iron	mg/L	0.3[A]	0.3[B]	**5.18**[AB]	**6.80**[AB]	**7.70**[AB]	**7.70**[AB]	0.242	0.224	8%	0.019	0.018	5%	0.021	0.024		
Lead	mg/L	0.001/0.007$_{TBC1}$[A]	0.001/0.007$_{e,d,TBC1}$[B]	0.000233	0.00138	0.000340	0.00118	0.000188	0.000180	4%	<0.000050	<0.000050	nc	0.000086	0.000071		
Lithium	mg/L	n/v	n/v	0.0027	0.0034	0.0038	0.0048	0.0019	0.0018	5%	0.0019	0.0018	5%	0.0016	0.0019		
Magnesium	mg/L	n/v	n/v	23.4	39.0	37.7	38.2	11.4	11.1	3%	9.79	9.55	2%	9.74	9.92		
Manganese	mg/L	n/v	0.2[B]	**0.944**[AB]	**2.83**[AB]	**1.67**[B]	**1.73**[B]	0.0614	0.0608	1%	0.0138	0.0134	3%	0.0148	0.0193		
Mercury	mg/L	0.000026[A]	0.000026$_{e}$[B]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	nc	<0.0000050	<0.0000050	nc	<0.0000050	<0.0000050		
Molybdenum	mg/L	0.073[A]	0.073[B]	0.00144	0.00956	0.00351	0.00412	0.00470	0.00473	1%	0.00626	0.00609	3%	0.00620	0.00654		
Nickel	mg/L	0.025/0.15$_{TBC1}$[A]	0.025/0.15$_{e,d,TBC1}$[B]	0.00895	0.0291	0.0116	0.0118	0.00314	0.00301	4%	0.00214	0.00203	5%	0.00216	0.00217		
Phosphorus	mg/L	n/v	n/v	0.051	0.113	<0.100 DLA	0.118	<0.050	<0.050	nc	<0.050	<0.050	nc	<0.050	<0.050		
Potassium	mg/L	n/v	n/v	10.9	14.2	15.4	14.9	2.05	2.04	0%	1.71	1.66	3%	1.79	1.76		
Rubidium	mg/L	n/v	n/v	0.00140	0.00275	0.00261	0.00317	0.00114	0.00111	3%	0.00111	0.00102	8%	0.00116	0.00113		
Selenium	mg/L	0.001[A]	0.001[B]	0.000204	0.000364	0.000427	0.000408	**0.00166**[AB]	**0.00195**[AB]	16%	**0.00190**[AB]	**0.00186**[AB]	2%	**0.00199**[AB]	**0.00172**[AB]		
Silicon	mg/L	n/v	n/v	6.22	5.87	8.45	8.09	5.05	5.18	3%	4.90	4.87	1%	5.13	4.83		
Silver	mg/L	0.00025[A]	0.00025[B]	<0.000010	0.000069	<0.000020 DLA	0.000062	0.000014	<0.000010	nc	<0.000010	<0.000010	nc	<0.000010	<0.000010		
Sodium	mg/L	n/v	n/v	30.2	41.3	47.7	45.8	3.67	3.75	2%	3.42	3.39	1%	3.45	3.48		
Strontium	mg/L	n/v	n/v	0.958	1.96	1.82	1.78	0.364	0.367	1%	0.359	0.352	2%	0.332	0.358		
Sulfur	mg/L	n/v	n/v	151	387	313	331	50.1	51.1	2%	45.3	45.4	0%	44.7	41.9		
Tellurium	mg/L	n/v	n/v	<0.00020	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020	<0.00020	nc	<0.00020	<0.00020	nc	<0.00020	<0.00020		
Thallium	mg/L	0.0008[A]	0.0008[B]	0.000017	<0.000020 DLA	0.000031	<0.000020 DLA	<0.000010	<0.000010	nc	0.000010	0.000010	0%	<0.000010	0.000014		
Thorium	mg/L	n/v	n/v	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010		
Tin	mg/L	n/v	n/v	<0.00010	0.00062	<0.00020 DLA	0.00344	0.00045	0.00041	9%	<0.00010	<0.00010	nc	<0.00010	<0.00010		
Titanium	mg/L	n/v	0.1[B]	<0.00060 DLM	<0.00480 DLM	<0.00090 DLM	<0.00330 DLM	0.00240 DLM	0.00220	9%	<0.00030	<0.00030	nc	<0.00030	<0.00030		
Tungsten	mg/L	n/v	n/v	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010		
Uranium	mg/L	0.015[A]	0.01[B]	0.00379	**0.0181**[AB]	**0.0113**[B]	**0.0131**[B]	0.00342	0.00346	1%	0.00328	0.00322	2%	0.00275	0.00290		
Vanadium	mg/L	n/v	0.1[B]	<0.00050	0.00103	<0.00100 DLA	<0.00100 DLA	<0.00050	<0.00050	nc	<0.00050	<0.00050	nc	<0.00050	<0.00050		
Zinc	mg/L	n/v	0.01[B]	<0.0030	0.0064	<0.0060 DLA	<0.0060 DLA	0.0085	0.0083	2%	<0.0030	<0.0030	nc	<0.0030	<0.0030		
Zirconium	mg/L	n/v	n/v	<0.00040 DLM	0.00051	<0.00040 DLA	<0.00040 DLA	<0.00020	<0.00020	nc	<0.00020	<0.00020	nc	<0.00020	<0.00020		

See Notes on last page.

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location					; (SNP 2016-7d)			Field Blank			
Sample Date					12-Sep-24			12-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24
Sample ID					GLG-2024-00004-006	GLG-2024-00004-019		GLG-2024-00001-023	GLG-2024-00002-023	GLG-2024-00003-023	GLG-2024-00004-023
Sampling Company					STANTEC			STANTEC	STANTEC	STANTEC	STANTEC
Laboratory					ALS			ALS	ALS	ALS	ALS
Laboratory Work Order					YL2401501			YL2400658	YL2400890	YL2401272	YL2401469
Laboratory Sample ID				RPD	YL2401501-006	YL2401501-011	RPD	YL2400658-008	YL2400890-007	YL2401272-008	YL2401469-008
Sample Type	Units	CCME	FIGQG	(%)		BFD	(%)	Field Blank	Field Blank	Field Blank	Field Blank
General Chemistry											
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	1%	167	169	1%	-	-	-	-
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	nc	2.8	4.0	35%	-	-	-	-
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	n/v	nc	<1.0	<1.0	nc	-	-	-	-
Alkalinity, Total	mg/L	n/v	n/v	1%	170	173	2%	-	-	-	-
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	$0.0173/190_{e,d,var3}$ [B]	nc	0.0064	0.0054	17%	-	-	-	-
Chloride	mg/L	120 [A]	100 [B]	6%	0.88	0.88	0%	-	-	-	-
Electrical Conductivity, Lab	µS/cm	n/v	n/v	1%	578	564	2%	-	-	-	-
Hardness (as CaCO3), Dissolved	mg/L	n/v	n/v	0%	306	289	6%	-	-	-	-
Hardness (as CaCO3), Total	mg/L	n/v	n/v	12%	287	298	4%	-	-	-	-
Nitrate	mg/L	13 [A]	13 [B]	0%	**21.0** [AB]	**21.0** [AB]	0%	-	-	-	-
Nitrate (as N)	mg/L	3.0 [A]	3_{s12} [B]	0%	**4.74** [AB]	**4.74** [AB]	0%	-	-	-	-
Nitrate + Nitrite (as N)	mg/L	n/v	100 [B]	0%	4.74	4.74	0%	-	-	-	-
Nitrite	mg/L	0.197_{n1} [A]	0.20_{s13} [B]	2%	0.0095	0.0072	28%	-	-	-	-
Nitrite (as N)	mg/L	0.06 [A]	0.06 [B]	2%	0.0029	0.0022	27%	-	-	-	-
Orthophosphate (as P)	mg/L	n/v	n/v	10%	0.0132	0.0134	2%	-	-	-	-
pH, lab	S.U.	6.5-9.0 [A]	6.5-9 [B]	0%	8.31	8.35	0%	-	-	-	-
Phenolphthalein Alkalinity	mg/L	n/v	n/v	nc	1.4	2.0	35%	-	-	-	-
Phosphorus, Total	mg/L	n/v	n/v	2%	0.0228	0.0225	1%	-	-	-	-
Sulfate	mg/L	n/v	100 [B]	1%	**122** [B]	**118** [B]	3%	-	-	-	-
Total Dissolved Solids	mg/L	n/v	3,000 [B]	4%	401	416	4%	-	-	-	-
Total Organic Carbon	mg/L	n/v	n/v	10%	2.94	2.84	3%	-	-	-	-
Total Suspended Solids	mg/L	$_{SN}$ [A]	n/v	nc	<1.0	<1.0	nc	-	-	-	-
BTEX and Petroleum Hydrocarbons											
Benzene	µg/L	370 [A]	88 [B]	nc	<0.50	<0.50	nc	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	2 [A]	83 [B]	nc	<0.50	<0.50	nc	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	90 [A]	3,200 [B]	nc	<0.50	<0.50	nc	<0.50	<0.50	<0.50	<0.50
Xylene, m & p-	µg/L	n/v	$_{s1}$ [B]	nc	<0.50	<0.50	nc	<0.50	<0.40	<0.50	<0.50
Xylene, o-	µg/L	n/v	$_{s1}$ [B]	nc	<0.50	<0.50	nc	<0.50	<0.30	<0.50	<0.50
Xylenes, Total	µg/L	n/v	3,900 [B]	nc	<0.75	<0.75	nc	<0.75	<0.50	<0.75	<0.75
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	340 [B]	-	-	-	-	-	<0.50	-	-
Styrene	µg/L	72 [A]	72 [B]	-	-	-	-	-	<0.50	-	-
PHC F1 (C6-C10 range)	µg/L	n/v	n/v	nc	<100	<100	nc	<100	<100	<100	<100
PHC F1 (C6-C10 range) minus BTE	µg/L	n/v	810 [B]	nc	<100	<100	nc	<100	<100	<100	<100
PHC F2 (>C10-C16 range)	µg/L	n/v	1,300 [B]	nc	<100	<100	nc	<100	<100	<100	<100
PHC F3 (>C16-C34 range)	µg/L	n/v	n/v	nc	<250	<250	nc	<250	<100	<250	<250
PHC F4 (>C34-C50 range)	µg/L	n/v	n/v	nc	<250	<250	nc	<250	<300	<250	<250
Total BTEX (Calc)	µg/L	n/v	n/v	nc	<1.2	<1.2	nc	<1.2	<300	<1.2	<1.2
Total Hydrocarbons (C6-C50)	µg/L	n/v	n/v	nc	<400	<400	nc	<400	<300	<400	<400
Metals, Dissolved											
Calcium	mg/L	n/v	n/v	0%	106	99.7	6%	-	-	-	-
Magnesium	mg/L	n/v	n/v	2%	9.97	9.80	2%	-	-	-	-
Potassium	mg/L	n/v	n/v	5%	1.58	1.56	1%	-	-	-	-
Sodium	mg/L	n/v	n/v	5%	3.50	3.47	1%	-	-	-	-

See Notes on last page.

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location				S (SNP 2016-7d)				Field Blank			
Sample Date				12-Sep-24			12-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24
Sample ID				GLG-2024-00004-006	GLG-2024-00004-019		GLG-2024-00001-023	GLG-2024-00002-023	GLG-2024-00003-023	GLG-2024-00004-023
Sampling Company				STANTEC			STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				ALS			ALS	ALS	ALS	ALS
Laboratory Work Order				YL2401501			YL2400658	YL2400890	YL2401272	YL2401469
Laboratory Sample ID							YL2400658-008	YL2400890-007	YL2401272-008	YL2401469-008
Sample Type	Units	CCME	FIGQG	RPD (%)	YL2401501-006	YL2401501-011 BFD	RPD (%)	Field Blank	Field Blank	Field Blank	Field Blank
Metals, Total											
Aluminum	mg/L	$0.005/0.1_{VAR1}$[A]	$0.005/0.1_{e,d,VAR1}$[B]	4%	0.0086	0.0097	12%	-	-	-	-
Antimony	mg/L	n/v	2[B]	7%	0.00534	0.00534	0%	-	-	-	-
Arsenic	mg/L	0.005[A]	0.005[B]	1%	0.00462	0.00455	2%	-	-	-	-
Barium	mg/L	n/v	0.5[B]	0%	0.0243	0.0245	1%	-	-	-	-
Beryllium	mg/L	n/v	0.0053[B]	nc	<0.000100	<0.000100	nc	-	-	-	-
Bismuth	mg/L	n/v	n/v	nc	<0.000050	<0.000050	nc	-	-	-	-
Boron	mg/L	1.5[A]	0.5[B]	nc	<0.010	<0.010	nc	-	-	-	-
Cadmium	mg/L	0.00009_{LTG}[A]	0.00009_{c}[B]	22%	0.0000199	0.0000196	2%	-	-	-	-
Calcium	mg/L	n/v	n/v	14%	98.6	103	4%	-	-	-	-
Cesium	mg/L	n/v	n/v	nc	<0.000010	<0.000010	nc	-	-	-	-
Chromium	mg/L	n/v	0.0089_{e}[B]	nc	<0.00050	<0.00050	nc	-	-	-	-
Cobalt	mg/L	n/v	0.05[B]	5%	0.00021	0.00024	13%	-	-	-	-
Copper	mg/L	$0.002/0.004_{TBC1}$[A]	$0.002/0.004_{e,d,TBC1}$[B]	8%	0.00126	0.00131	4%	-	-	-	-
Iron	mg/L	0.3[A]	0.3[B]	13%	0.025	0.028	11%	-	-	-	-
Lead	mg/L	$0.001/0.007_{TBC1}$[A]	$0.001/0.007_{e,d,TBC1}$[B]	19%	<0.000050	0.000053	nc	-	-	-	-
Lithium	mg/L	n/v	n/v	17%	0.0019	0.0020	5%	-	-	-	-
Magnesium	mg/L	n/v	n/v	2%	9.93	10.0	1%	-	-	-	-
Manganese	mg/L	n/v	0.2[B]	26%	0.0121	0.0131	8%	-	-	-	-
Mercury	mg/L	0.000026[A]	0.000026_{e}[B]	nc	<0.0000050	<0.0000050	nc	-	-	-	-
Molybdenum	mg/L	0.073[A]	0.073[B]	5%	0.00705	0.00695	1%	-	-	-	-
Nickel	mg/L	$0.025/0.15_{TBC1}$[A]	$0.025/0.15_{e,d,TBC1}$[B]	0%	0.00254	0.00260	2%	-	-	-	-
Phosphorus	mg/L	n/v	n/v	nc	<0.050	0.051	nc	-	-	-	-
Potassium	mg/L	n/v	n/v	2%	1.62	1.62	0%	-	-	-	-
Rubidium	mg/L	n/v	n/v	3%	0.00132	0.00122	8%	-	-	-	-
Selenium	mg/L	0.001[A]	0.001[B]	15%	**0.00194**[AB]	**0.00202**[AB]	4%	-	-	-	-
Silicon	mg/L	n/v	n/v	6%	5.00	5.29	6%	-	-	-	-
Silver	mg/L	0.00025[A]	0.00025[B]	nc	<0.000010	<0.000010	nc	-	-	-	-
Sodium	mg/L	n/v	n/v	1%	3.89	3.84	1%	-	-	-	-
Strontium	mg/L	n/v	n/v	8%	0.341	0.341	0%	-	-	-	-
Sulfur	mg/L	n/v	n/v	6%	41.3	43.1	4%	-	-	-	-
Tellurium	mg/L	n/v	n/v	nc	<0.00020	<0.00020	nc	-	-	-	-
Thallium	mg/L	0.0008[A]	0.0008[B]	nc	<0.000010	<0.000010	nc	-	-	-	-
Thorium	mg/L	n/v	n/v	nc	<0.00010	<0.00010	nc	-	-	-	-
Tin	mg/L	n/v	n/v	nc	<0.00010	<0.00010	nc	-	-	-	-
Titanium	mg/L	n/v	0.1[B]	nc	<0.00030	<0.00030	nc	-	-	-	-
Tungsten	mg/L	n/v	n/v	nc	<0.00010	<0.00010	nc	-	-	-	-
Uranium	mg/L	0.015[A]	0.01[B]	5%	0.00289	0.00293	1%	-	-	-	-
Vanadium	mg/L	n/v	0.1[B]	nc	<0.00050	<0.00050	nc	-	-	-	-
Zinc	mg/L	n/v	0.01[B]	nc	<0.0030	<0.0030	nc	-	-	-	-
Zirconium	mg/L	n/v	n/v	nc	<0.00020	<0.00020	nc	-	-	-	-

See Notes on last page.

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location				Trip Blank			
Sample Date				12-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24
Sample ID				GLG-2024-00001-022	GLG-2024-00002-022	GLG-2024-00003-022	GLG-2024-00004-022
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				ALS	ALS	ALS	ALS
Laboratory Work Order				YL2400658	YL2400890	YL2401272	YL2401469
Laboratory Sample ID				YL2400658-007	YL2400890-008	YL2401272-007	YL2401469-007
Sample Type	Units	CCME	FIGQG	Trip Blank	Trip Blank	Trip Blank	Trip Blank
General Chemistry							
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	n/v	-	-	-	-
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	-	-	-	-
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	n/v	-	-	-	-
Alkalinity, Total	mg/L	n/v	n/v	-	-	-	-
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	$0.0173/190_{e,d,var3}$ [B]	-	-	-	-
Chloride	mg/L	120 [A]	100 [B]	-	-	-	-
Electrical Conductivity, Lab	µS/cm	n/v	n/v	-	-	-	-
Hardness (as CaCO3), Dissolved	mg/L	n/v	n/v	-	-	-	-
Hardness (as CaCO3), Total	mg/L	n/v	n/v	-	-	-	-
Nitrate	mg/L	13 [A]	13 [B]	-	-	-	-
Nitrate (as N)	mg/L	3.0 [A]	3_{s12} [B]	-	-	-	-
Nitrate + Nitrite (as N)	mg/L	n/v	100 [B]	-	-	-	-
Nitrite	mg/L	0.197_{n1} [A]	0.20_{s13} [B]	-	-	-	-
Nitrite (as N)	mg/L	0.06 [A]	0.06 [B]	-	-	-	-
Orthophosphate (as P)	mg/L	n/v	n/v	-	-	-	-
pH, lab	S.U.	6.5-9.0 [A]	6.5-9 [B]	-	-	-	-
Phenolphthalein Alkalinity	mg/L	n/v	n/v	-	-	-	-
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	-
Sulfate	mg/L	n/v	100 [B]	-	-	-	-
Total Dissolved Solids	mg/L	n/v	3,000 [B]	-	-	-	-
Total Organic Carbon	mg/L	n/v	n/v	-	-	-	-
Total Suspended Solids	mg/L	$_{SN}$ [A]	n/v	-	-	-	-
BTEX and Petroleum Hydrocarbons							
Benzene	µg/L	370 [A]	88 [B]	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	2 [A]	83 [B]	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	90 [A]	3,200 [B]	<0.50	<0.50	<0.50	<0.50
Xylene, m & p-	µg/L	n/v	$_{s1}$ [B]	<0.50	<0.40	<0.50	<0.50
Xylene, o-	µg/L	n/v	$_{s1}$ [B]	<0.50	<0.30	<0.50	<0.50
Xylenes, Total	µg/L	n/v	3,900 [B]	<0.75	<0.50	<0.75	<0.75
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	340 [B]	-	<0.50	-	-
Styrene	µg/L	72 [A]	72 [B]	-	<0.50	-	-
PHC F1 (C6-C10 range)	µg/L	n/v	n/v	<100	<100	<100	<100
PHC F1 (C6-C10 range) minus BTE	µg/L	n/v	810 [B]	<100	<100	<100	<100
PHC F2 (>C10-C16 range)	µg/L	n/v	1,300 [B]	<100	<100	<100	<100
PHC F3 (>C16-C34 range)	µg/L	n/v	n/v	<250	<100	<250	<250
PHC F4 (>C34-C50 range)	µg/L	n/v	n/v	<250	<300	<250	<250
Total BTEX (Calc)	µg/L	n/v	n/v	<1.2	<300	<1.2	<1.2
Total Hydrocarbons (C6-C50)	µg/L	n/v	n/v	<400	<300	<400	<400
Metals, Dissolved							
Calcium	mg/L	n/v	n/v	-	-	-	-
Magnesium	mg/L	n/v	n/v	-	-	-	-
Potassium	mg/L	n/v	n/v	-	-	-	-
Sodium	mg/L	n/v	n/v	-	-	-	-

See Notes on last page.

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location				Trip Blank			
Sample Date				12-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24
Sample ID				GLG-2024-00001-022	GLG-2024-00002-022	GLG-2024-00003-022	GLG-2024-00004-022
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				ALS	ALS	ALS	ALS
Laboratory Work Order				YL2400658	YL2400890	YL2401272	YL2401469
Laboratory Sample ID				YL2400658-007	YL2400890-008	YL2401272-007	YL2401469-007
Sample Type	Units	CCME	FIGQG	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Metals, Total							
Aluminum	mg/L	$0.005/0.1_{VAR1}$[A]	$0.005/0.1_{e,d,VAR1}$[B]	-	-	-	-
Antimony	mg/L	n/v	2[B]	-	-	-	-
Arsenic	mg/L	0.005[A]	0.005[B]	-	-	-	-
Barium	mg/L	n/v	0.5[B]	-	-	-	-
Beryllium	mg/L	n/v	0.0053[B]	-	-	-	-
Bismuth	mg/L	n/v	n/v	-	-	-	-
Boron	mg/L	1.5[A]	0.5[B]	-	-	-	-
Cadmium	mg/L	0.00009_{LTG}[A]	0.00009_{c}[B]	-	-	-	-
Calcium	mg/L	n/v	n/v	-	-	-	-
Cesium	mg/L	n/v	n/v	-	-	-	-
Chromium	mg/L	n/v	0.0089_{e}[B]	-	-	-	-
Cobalt	mg/L	n/v	0.05[B]	-	-	-	-
Copper	mg/L	$0.002/0.004_{TBC1}$[A]	$0.002/0.004_{e,d,TBC1}$[B]	-	-	-	-
Iron	mg/L	0.3[A]	0.3[B]	-	-	-	-
Lead	mg/L	$0.001/0.007_{TBC1}$[A]	$0.001/0.007_{e,d,TBC1}$[B]	-	-	-	-
Lithium	mg/L	n/v	n/v	-	-	-	-
Magnesium	mg/L	n/v	n/v	-	-	-	-
Manganese	mg/L	n/v	0.2[B]	-	-	-	-
Mercury	mg/L	0.000026[A]	0.000026_{e}[B]	-	-	-	-
Molybdenum	mg/L	0.073[A]	0.073[B]	-	-	-	-
Nickel	mg/L	$0.025/0.15_{TBC1}$[A]	$0.025/0.15_{e,d,TBC1}$[B]	-	-	-	-
Phosphorus	mg/L	n/v	n/v	-	-	-	-
Potassium	mg/L	n/v	n/v	-	-	-	-
Rubidium	mg/L	n/v	n/v	-	-	-	-
Selenium	mg/L	0.001[A]	0.001[B]	-	-	-	-
Silicon	mg/L	n/v	n/v	-	-	-	-
Silver	mg/L	0.00025[A]	0.00025[B]	-	-	-	-
Sodium	mg/L	n/v	n/v	-	-	-	-
Strontium	mg/L	n/v	n/v	-	-	-	-
Sulfur	mg/L	n/v	n/v	-	-	-	-
Tellurium	mg/L	n/v	n/v	-	-	-	-
Thallium	mg/L	0.0008[A]	0.0008[B]	-	-	-	-
Thorium	mg/L	n/v	n/v	-	-	-	-
Tin	mg/L	n/v	n/v	-	-	-	-
Titanium	mg/L	n/v	0.1[B]	-	-	-	-
Tungsten	mg/L	n/v	n/v	-	-	-	-
Uranium	mg/L	0.015[A]	0.01[B]	-	-	-	-
Vanadium	mg/L	n/v	0.1[B]	-	-	-	-
Zinc	mg/L	n/v	0.01[B]	-	-	-	-
Zirconium	mg/L	n/v	n/v	-	-	-	-

See Notes on last page.

Table B.3
Summary of Groundwater Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Notes:

CCME	Canadian Council of Ministers of the Environment
A	Canadian Environmental Quality Guidelines, Canadian Water Quality Guidelines for the Protection of Aquatic Life - Freshwater Aquatics Long Term
FIGQG	Guidance Document on Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (Government of Canada, June 2016 (version 4) revised November 2016)
B	Table 1 Federal Interim Groundwater Guidelines - Generic Guidelines for Agricultural Use - (Tier 1) Lowest Guideline - Coarse
6.5[A]	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
<0.50	Laboratory reporting limit was greater than the applicable standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
c	Hardness dependent guideline; if hardness of receiving surface water is available can be calculated as 10^{0.83(log[hardness])-2.46}
d	The freshwater aquatic life guidelines vary depending on water pH, hardness etc. Therefore, see Canadian Water Quality Guidelines for the Protection of Aquatic Life (CCME 1999) to determine the appropriate water quality guideline applicable to the site and calculate the groundwater guidelines using formulas provided in Appendix B.
e	Guideline is the lowest of all applicable pathways.
LTG	The CWQG for cadmium (i.e. long-term guideline) of 0.09 µg·L-1 is for waters of 50 mg CaCO3·L-1 hardness. The CWQG for cadmium is related to water hardness (as CaCO3): When the water hardness is > 0 to < 17 mg/L, the CWQG is 0.04 µg/L; at hardness ≥ 17 to ≤ 280 mg/L, the CWQG is calculated using this equation (CWQG (µg/L) = 10^{0.83(log[hardness]) – 2.46 }); At hardness > 280 mg/L, the CWQG is 0.37 µg/L.
n1	Guideline is expressed as Nitrite (as N) in ug/L. This value is equivalent to 197 ug/L for Nitrite.
s1	Standard is applicable to total xylenes, and m & p-xylenes and o-xylenes should be summed for comparison.
s12	Added for Nitrate-N as guideline only present for Nitrate. Divided the Nitrate guideline by 4.4.
s13	Guidelines only provided for Nitrite (as N). Nitrite guideline (as NO2) is calculated by multiplying the Nitrite (as N) guideline by 3.29.
SN	Narrative: Clear flow - Maximum increase of 25 mg/L from background levels for any short-term exposure (e.g., 24-h period). Maximum average increase of 5 mg/L from background levels for longer term exposures (e.g., inputs lasting between 24 h and 30 d). High flow - Maximum increase of 25 mg/L from background levels at any time when background levels are between 25 and 250 mg/L. Should not increase more than 10% of background levels when background is ≥ 250 mg/L.
TBC1	Value is minimum value available. Sample-specific value to be calculated (equation).
TBC2	To be calculated (equation), then the present guideline values (mg/L NH3) can be converted to mg/L total ammonia-N by multiplying the corresponding guideline value by 0.8224.
VAR1	Variable, 5 µg/L if pH < 6.5 and 100 µg/L if pH > 6.5
var3	Ammonia is pH and temperature dependent, see CCME guidelines for further instructions. CCME provides the guideline as ammonia (as NH3), and was converted to ammonia (as N) by multiplying the guideline by 0.8224.
DLA	Detection Limit adjusted for required dilution.
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids/Electrical Conductivity.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
BFD	Blind Field Duplicate
RPD	Relative Percent Difference.
61%	RPD exceeds data quality objective of 40%.
nc	RPD is not calculated if one or more values is not detected or if one or more values is less than five times the reportable detection limit.

Table B.4
Summary of In-situ Surface Water Quality Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample ID / LTM Station	Sample Control Number	Sample Date (DD-MMM-YY)	Easting	Northing	Temperature	Conductivity	Specific Conductance	TDS	Turbidity	Dissovled Oxygen		pH	ORP	Sample Comments & Observations
			NAD83		(°C)	(µS/cm)	(µS/cm)	mg/L	(NTU)	(%)	(mg/L)			
SNP2016-11a	GLG-2024-00001-009	13-Jun-24	390881	6994592	14.5	79.4	99.4	64	0.31	123.5	12.59	8.26	86.7	None
	GLG-2024-00002-009	11-Jul-24			105.1	0.089	105.1	-	0.00	-	10.55	8.28	34.5	None
	GLG-2024-00003-009	22-Aug-24			14.9	86.6	107.5	-	0.00	-	10.66	7.9	90.0	None
	GLG-2024-00004-009	11-Sep-24			11.5	137.9	113.6	-	176.59	-	11.8	8.02	136.1	None
SNP2016-11b1	GLG-2024-00001-010	14-Jun-24	388174	6986093	10.2	73.1	102.1	66	0.36	114	12.86	7.89	78.4	None
	GLG-2024-00002-010	10-Jul-24			17.1	0.087	102.8	67	0.58	-	10.69	8.22	6.7	None
	GLG-2024-00003-010	20-Aug-24			16.4	83.3	99.6	-	0.00	-	11.32	8.08	63.8	None
	GLG-2024-00004-010	12-Sep-24			11.8	82.6	110.4	-	176.58	-	11.22	7.85	106.8	None
SNP2016-11b2	GLG-2024-00001-011	14-Jun-24	388365	6985917	10.9	74.5	101.9	66	0.16	117.6	13.00	7.83	122.2	None
	GLG-2024-00002-011	10-Jul-24			16.9	0.087	103.3	67	0.66	-	10.48	7.98	-41.2	None
	GLG-2024-00003-011	20-Aug-24			16.9	84.1	99.4	-	*	-	11.10	8.14	20.9	None
	GLG-2024-00004-011	12-Sep-24			12.4	83.2	109.6	-	176.59	-	11.28	7.81	122.7	None
SNP2016-11b3	GLG-2024-00001-012	14-Jun-24	388376	6986145	13.5	83.1	106.4	69	1.49	118.8	12.37	7.75	110.2	None
	GLG-2024-00002-012	10-Jul-24			18.7	0.092	104.8	68	0.21	-	10.86	8.43	-37.8	None
	GLG-2024-00003-012	20-Aug-24			16.7	85.7	99.3	-	*	-	11.22	8.16	47.4	None
	GLG-2024-00004-012	12-Sep-24			11.9	84.9	113.2	-	175.05	-	11.39	7.70	32.2	None
SNP2016-11b4	GLG-2024-00001-013	14-Jun-24	388174	6985898	10.4	75.2	104.1	68	1.20	116.2	12.96	7.94	41.9	None
	GLG-2024-00002-013	10-Jul-24			17.1	0.090	105.6	-	0.00	-	10.54	8.33	-1.1	None
	GLG-2024-00003-013	20-Aug-24			16.4	82.7	99.0	-	*	-	11.37	8.12	65.8	None
	GLG-2024-00004-013	12-Sep-24			12.6	84.2	110.3	-	176.54	-	11.12	8.13	-29.7	None
SNP2016-11c	GLG-2024-00001-014	13-Jun-24	386768	6985533	10.9	73.9	101.2	66	0.28	120.8	13.37	7.99	97.8	None
	GLG-2024-00002-014	11-Jul-24			18.8	0.087	102.8	-	0.00	-	10.90	8.16	32.5	None
	GLG-2024-00003-014	22-Aug-24			14.6	83.3	104.0	-	0.00	-	11.03	8.03	90.0	None
	GLG-2024-00004-014	11-Sep-24			11.5	81.4	109.7	-	176.62	-	11.60	7.99	118.0	None
SNP2016-11d	GLG-2024-00001-015	13-Jun-24	381650	6982714	14.6	147.0	183.4	119	12.50	88.2	8.97	7.66	-23.0	None
	GLG-2024-00002-015	11-Jul-24			16.4	0.153	183.6	-	6.98	-	1.76	6.84	-36.5	None
	GLG-2024-00003-015	22-Aug-24			10.3	150.7	209.9	-	638.89	-	5.12	6.93	-65.9	Multi-parameter probe sank into organic detritus
	GLG-2024-00004-015	11-Sep-24			7.5	137.9	206.8	-	169.54	-	9.64	7.56	65.4	None
SNP2016-11e	GLG-2024-00001-016	13-Jun-24	381411	6981168	11.7	73.8	99	64	0.16	116.6	12.65	8.28	76.1	None
	GLG-2024-00002-016	11-Jul-24			16.9	0.086	102.2	-	3.08	-	10.57	7.95	30.6	None
	GLG-2024-00003-016	22-Aug-24			15.0	85.0	105.0	-	0.00	-	10.78	7.93	39.7	None
	GLG-2024-00004-016	11-Sep-24			12.1	83.9	111.2	-	176.62	-	11.47	7.76	93.4	None
SNP2016-11f	GLG-2024-00001-017	13-Jun-24	386542	6978365	14.1	81.0	102.2	66	1.89	120.5	12.37	8.03	129.7	None
	GLG-2024-00002-017	11-Jul-24			18.8	0.091	103.3	-	0.00	-	11.07	8.23	38.9	None
	GLG-2024-00003-017	22-Aug-24			14.2	82.3	103.7	-	0.00	-	11.48	8.22	73.7	None
	GLG-2024-00004-017	11-Sep-24			11.9	81.7	109.0	-	176.48	-	11.48	8.05	114.7	None
Duplicate (SNP2016-11a)	GLG-2024-00001-020	13-Jun-24	390881	6994592	14.5	79.4	99.4	64	0.31	123.5	12.59	8.26	86.7	None
	GLG-2024-00002-020	11-Jul-24			105.1	0.089	105.1	-	0.00	-	10.55	8.28	34.5	None
	GLG-2024-00003-020	22-Aug-24			14.9	86.6	107.5	-	0.00	-	10.66	7.90	90.0	None
	GLG-2024-00004-020	11-Sep-24			11.5	137.9	113.6	-	176.59	-	11.8	8.02	136.1	None

Notes:

°C	Degree Celsius
µS/cm	Microsiemens per centimetre
mg/L	Milligram per litre
NTU	Nephelometric Turbidity Unit
mV	Millivolt
ORP	Oxidation/ Reduction Potential
TDS	Total Dissolved Soilds

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			SNP 2016-11a												
Sample Date			13-Jun-24			11-Jul-24			22-Aug-24			11-Sep-24			
Sample ID			GLG-2024-00001-009	GLG-2024-00001-020		GLG-2024-00002-009	GLG-2024-00002-020		GLG-2024-00003-009	GLG-2024-00003-020		GLG-2024-00004-009	GLG-2024-00004-020		
Sampling Company			STANTEC			STANTEC			STANTEC			STANTEC			
Laboratory			ALS			ALS			ALS			ALS			
Laboratory Work Order			YL2400666			YL2400890			YL2401272			YL2401469			
Laboratory Sample ID			YL2400666-003	YL2400666-004		YL2400890-001	YL2400890-002		YL2401272-005	YL2401272-006		YL2401469-001	YL2401469-006		
Sample Type	Units	CCME		BFD	RPD (%)		BFD	RPD (%)		BFD	RPD (%)		BFD	RPD (%)	
General Chemistry															
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	40.8	40.3	nc	41.9	41.8	0%	48.0	49.3	3%	45.2	44.7	1%	
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	<1.0	<1.0	1%	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	
Alkalinity, Total	mg/L	n/v	40.8	40.3	1%	41.9	41.8	0%	48.0	49.3	3%	45.2	44.7	1%	
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	<0.0050	<0.0050	1%	<0.0050	<0.0050	nc	0.0184	0.0193	nc	0.0056	0.0060	nc	
Chloride	mg/L	120 [A]	1.35	1.34	nc	1.43	1.43	nc	1.43	1.43	nc	1.43	1.42	nc	
Electrical Conductivity, Lab	µS/cm	n/v	103	103	nc	105	105	0%	102	102	0%	110	109	1%	
Hardness (as CaCO3)	mg/L	n/v	41.8	42.2	1%	45.4	45.3	0%	44.2	45.7	3%	45.3	45.6	1%	
Hardness (as CaCO3)	mg/L	n/v	44.9	44.3	0%	44.0	45.0	2%	44.4	46.0	4%	47.3	47.3	0%	
Nitrate	mg/L	13 [A]	<0.022	<0.022	nc	<0.022	0.102	nc	<0.022	<0.022	nc	<0.022	<0.022	nc	
Nitrate (as N)	mg/L	3.0 [A]	<0.0050	<0.0050	nc	<0.0050	0.0231	nc	<0.0050	<0.0050	nc	<0.0050	<0.0050	nc	
Nitrate + Nitrite (as N)	mg/L	n/v	<0.0051	<0.0051	nc	<0.0051	0.0231	nc	<0.0051	<0.0051	nc	<0.0051	<0.0051	nc	
Nitrite	mg/L	0.197_{n1} [A]	<0.0033	<0.0033	nc	<0.0033	<0.0033	nc	<0.0033	<0.0033	nc	<0.0033	<0.0033	nc	
Nitrite (as N)	mg/L	0.06 [A]	<0.0010	<0.0010	nc	<0.0010	<0.0010	nc	<0.0010	<0.0010	nc	<0.0010	<0.0010	nc	
Orthophosphate (as P)	mg/L	n/v	<0.0010	<0.0010	0%	<0.0010	<0.0010	nc	0.0012 HTA	0.0013 HTA	nc	<0.0010	<0.0010	nc	
pH, lab	S.U.	6.5-9.0 [A]	7.89	7.91	nc	7.87	7.86	0%	7.98	7.97	0%	7.90	7.91	0%	
Phenolphthalein Alkalinity	mg/L	n/v	<1.0	<1.0	14%	<1.0	<1.0	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	
Phosphorus, Total	mg/L	n/v	0.0091	0.0064	nc	0.0051	0.0046	nc	0.0042	0.0045	nc	0.0069	0.0063	nc	
Sulfate	mg/L	n/v	7.60	7.56	nc	7.94	7.90	1%	8.06	8.02	0%	9.67	9.58	1%	
Total Dissolved Solids	mg/L	n/v	62.5	54.5	1%	62.8	62.2	1%	64.2	64.5	0%	68.2	69.2	1%	
Total Organic Carbon	mg/L	n/v	3.89	3.76	nc	2.95	2.70	9%	3.63	3.70	2%	3.23	3.49	8%	
Total Suspended Solids	mg/L	$_{SN}$ [A]	<1.0	<1.0	3%	3.1	3.1	nc	<1.0	<1.0	nc	<1.0	<1.0	nc	
BTEX and Petroleum Hydrocarbons															
Benzene	µg/L	370 [A]	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.50	<0.50	nc	
Toluene	µg/L	2 [A]	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.50	<0.50	nc	
Ethylbenzene	µg/L	90 [A]	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.50	<0.50	nc	
Xylene, m & p-	µg/L	n/v	<0.50	<0.50	nc	<0.40	<0.40	nc	<0.50	<0.50	nc	<0.50	<0.50	nc	
Xylene, o-	µg/L	n/v	<0.50	<0.50	nc	<0.30	<0.30	nc	<0.50	<0.50	nc	<0.50	<0.50	nc	
Xylenes, Total	µg/L	n/v	<0.75	<0.75	nc	<0.50	<0.50	nc	<0.75	<0.75	nc	<0.75	<0.75	nc	
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	-	-	-	<0.50	<0.50	nc	-	-	-	-	-	-	
Styrene	µg/L	72 [A]	-	-	-	<0.50	<0.50	nc	-	-	-	-	-	-	
PHC F1 (C6-C10 range)	µg/L	n/v	<100	<100	nc	<100	<100	nc	<100	<100	nc	<100	<100	nc	
PHC F1 (C6-C10 range) minus BTEX	µg/L	n/v	<100	<100	nc	<100	<100	nc	<100	<100	nc	<100	<100	nc	
PHC F2 (>C10-C16 range)	µg/L	n/v	<100	<100	nc	<100	<100	nc	<100	<100	nc	<100	<100	nc	
PHC F3 (>C16-C34 range)	µg/L	n/v	<250	<250	nc	<100	<100	nc	<250	<250	nc	<250	<250	nc	
PHC F4 (>C34-C50 range)	µg/L	n/v	<250	<250	nc	<300	<300	nc	<250	<250	nc	<250	<250	nc	
Total BTEX (Calc)	µg/L	n/v	<1.2	<1.2	nc	<300	<300	nc	<1.2	<1.2	nc	<1.2	<1.2	nc	
Total Hydrocarbons (C6-C50)	µg/L	n/v	<400	<400	nc	<300	<300	nc	<400	<400	nc	<400	<400	nc	
Metals, Dissolved															
Calcium	mg/L	n/v	11.9	12.1	2%	12.6	12.6	0%	12.6	13.1	4%	13.0	13.2	2%	
Magnesium	mg/L	n/v	2.94	2.90	1%	3.38	3.36	1%	3.10	3.16	2%	3.11	3.06	2%	
Potassium	mg/L	n/v	1.50	1.49	1%	1.56	1.56	0%	1.52	1.58	4%	1.50	1.56	4%	
Sodium	mg/L	n/v	2.21	2.19	1%	2.54	2.55	0%	2.38	2.50	5%	2.39	2.38	0%	

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			SNP 2016-11a												
Sample Date			13-Jun-24			11-Jul-24			22-Aug-24			11-Sep-24			
Sample ID			GLG-2024-00001-009	GLG-2024-00001-020		GLG-2024-00002-009	GLG-2024-00002-020		GLG-2024-00003-009	GLG-2024-00003-020		GLG-2024-00004-009	GLG-2024-00004-020		
Sampling Company			STANTEC			STANTEC			STANTEC			STANTEC			
Laboratory			ALS			ALS			ALS			ALS			
Laboratory Work Order			YL2400666			YL2400890			YL2401272			YL2401469			
Laboratory Sample ID			YL2400666-003	YL2400666-004	RPD	YL2400890-001	YL2400890-002	RPD	YL2401272-005	YL2401272-006	RPD	YL2401469-001	YL2401469-006	RPD	
Sample Type	Units	CCME		BFD	(%)		BFD	(%)		BFD	(%)		BFD	(%)	
Metals, Total															
Aluminum	mg/L	$0.005/0.1_{VAR1}$[A]	0.0151	0.0136	nc	0.0251	0.0251	0%	0.0111	0.0102	nc	0.0121	0.0114	nc	
Antimony	mg/L	n/v	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	
Arsenic	mg/L	0.005[A]	0.00052	0.00054	4%	0.00053	0.00053	0%	0.00081	0.00074	9%	0.00143	0.00140	2%	
Barium	mg/L	n/v	0.00450	0.00443	2%	0.00443	0.00440	1%	0.00520	0.00545	5%	0.00603	0.00603	0%	
Beryllium	mg/L	n/v	<0.000100	<0.000100	nc	<0.000100	<0.000100	nc	<0.000100	<0.000100	nc	<0.000100	<0.000100	nc	
Bismuth	mg/L	n/v	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	
Boron	mg/L	1.5[A]	<0.010	<0.010	nc	<0.010	<0.010	nc	0.012	0.012	nc	<0.010	<0.010	nc	
Cadmium	mg/L	0.00009_{LTG}[A]	<0.0000050	<0.0000050	nc	<0.0000050	<0.0000050	nc	<0.0000050	<0.0000050	nc	<0.0000050	<0.0000050	nc	
Calcium	mg/L	n/v	12.7	12.8	1%	12.5	12.7	2%	12.6	13.2	5%	13.7	13.6	1%	
Cesium	mg/L	n/v	<0.000010	<0.000010	nc	<0.000010	<0.000010	nc	<0.000010	<0.000010	nc	<0.000010	<0.000010	nc	
Chromium	mg/L	n/v	<0.00050	<0.00050	nc	<0.00050	<0.00050	nc	<0.00050	<0.00050	nc	<0.00050	<0.00050	nc	
Cobalt	mg/L	n/v	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	
Copper	mg/L	$0.002/0.004_{TBC1}$[A]	0.00065	0.00065	nc	0.00064	0.00065	nc	0.00055	0.00056	nc	0.00052	0.00051	nc	
Iron	mg/L	0.3[A]	0.012	0.011	nc	0.024	0.028	nc	<0.010	<0.010	nc	<0.010	<0.010	nc	
Lead	mg/L	$0.001/0.007_{TBC1}$[A]	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	
Lithium	mg/L	n/v	0.0020	0.0020	nc	0.0020	0.0021	nc	0.0016	0.0017	nc	0.0021	0.0021	nc	
Magnesium	mg/L	n/v	3.20	2.99	7%	3.10	3.22	4%	3.15	3.16	0%	3.19	3.24	2%	
Manganese	mg/L	n/v	0.00244	0.00252	3%	0.00294	0.00310	5%	0.00283	0.00282	0%	0.00318	0.00310	3%	
Mercury	mg/L	0.000026[A]	<0.0000050	<0.0000050	nc	<0.0000050	<0.0000050	nc	<0.0000050	0.0000063 RRV	nc	<0.0000050	<0.0000050	nc	
Molybdenum	mg/L	0.073[A]	0.000144	0.000146	nc	0.000112	0.000109	nc	0.000169	0.000184	nc	0.000420	0.000428	2%	
Nickel	mg/L	$0.025/0.15_{TBC1}$[A]	<0.00050	<0.00050	nc	<0.00050	<0.00050	nc	<0.00050	<0.00050	nc	0.00052	<0.00050	nc	
Phosphorus	mg/L	n/v	<0.050	<0.050	nc	<0.050	<0.050	nc	<0.050	<0.050	nc	<0.050	<0.050	nc	
Potassium	mg/L	n/v	1.56	1.58	1%	1.65	1.68	2%	1.55	1.61	4%	1.51	1.49	1%	
Rubidium	mg/L	n/v	0.00200	0.00191	5%	0.00231	0.00225	3%	0.00212	0.00216	2%	0.00209	0.00211	1%	
Selenium	mg/L	0.001[A]	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	<0.000050	<0.000050	nc	
Silicon	mg/L	n/v	0.18	0.17	nc	0.22	0.23	nc	0.35	0.35	nc	0.40	0.40	nc	
Silver	mg/L	0.00025[A]	<0.000010	<0.000010	nc	<0.000010	<0.000010	nc	<0.000010	<0.000010	nc	<0.000010	<0.000010	nc	
Sodium	mg/L	n/v	2.48	2.54	2%	2.33	2.45	5%	2.36	2.53	7%	2.43	2.33	4%	
Strontium	mg/L	n/v	0.0465	0.0451	3%	0.0475	0.0468	1%	0.0514	0.0528	3%	0.0584	0.0600	3%	
Sulfur	mg/L	n/v	2.81	2.70	4%	2.16	2.51	nc	3.01	2.98	1%	3.67	3.63	1%	
Tellurium	mg/L	n/v	<0.00020	<0.00020	nc	<0.00020	<0.00020	nc	<0.00020	<0.00020	nc	<0.00020	<0.00020	nc	
Thallium	mg/L	0.0008[A]	<0.000010	<0.000010	nc	<0.000010	<0.000010	nc	<0.000010	<0.000010	nc	<0.000010	<0.000010	nc	
Thorium	mg/L	n/v	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	
Tin	mg/L	n/v	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	
Titanium	mg/L	n/v	0.00040	0.00034	nc	0.00083	0.00086	nc	<0.00030	<0.00030	nc	<0.00030	<0.00030	nc	
Tungsten	mg/L	n/v	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	<0.00010	<0.00010	nc	
Uranium	mg/L	0.015[A]	0.000156	0.000154	1%	0.000131	0.000131	0%	0.000157	0.000158	1%	0.000421	0.000410	3%	
Vanadium	mg/L	n/v	<0.00050	<0.00050	nc	<0.00050	<0.00050	nc	<0.00050	<0.00050	nc	<0.00050	<0.00050	nc	
Zinc	mg/L	n/v	<0.0030	<0.0030	nc	<0.0030	<0.0030	nc	<0.0030	<0.0030	nc	<0.0030	<0.0030	nc	
Zirconium	mg/L	n/v	<0.00020	<0.00020	nc	<0.00020	<0.00020	nc	<0.00020	<0.00020	nc	<0.00020	<0.00020	nc	

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			SNP 2016-11b1				SNP 2016-11b2			
Sample Date			14-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24	14-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24
Sample ID			GLG-2024-00001-010	GLG-2024-00002-010	GLG-2024-00003-010	GLG-2024-00004-010	GLG-2024-00001-011	GLG-2024-00002-011	GLG-2024-00003-011	GLG-2024-00004-011
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order			YL2400673	YL2400874	YL2401240	YL2401501	YL2400673	YL2400874	YL2401240	YL2401501
Laboratory Sample ID			YL2400673-001	YL2400874-002	YL2401240-008	YL2401501-007	YL2400673-002	YL2400874-004	YL2401240-009	YL2401501-008
Sample Type	Units	CCME								
General Chemistry										
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	41.7	40.6	41.5	41.5	41.7	40.2	41.0	42.0
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Total	mg/L	n/v	41.7	40.6	41.5	41.5	41.7	40.2	41.0	42.0
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chloride	mg/L	120 [A]	1.45	1.44	1.44	1.40	1.46	1.43	1.44	1.39
Electrical Conductivity, Lab	µS/cm	n/v	105	99.5	101	105	104	98.9	103	101
Hardness (as CaCO3)	mg/L	n/v	42.5	41.2	42.9	43.4	42.2	42.1	44.5	43.1
Hardness (as CaCO3)	mg/L	n/v	45.4	44.1	41.5	42.8	45.0	44.4	41.8	44.1
Nitrate	mg/L	13 [A]	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
Nitrate (as N)	mg/L	3.0 [A]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nitrate + Nitrite (as N)	mg/L	n/v	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051
Nitrite	mg/L	0.197_{n1} [A]	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
Nitrite (as N)	mg/L	0.06 [A]	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Orthophosphate (as P)	mg/L	n/v	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
pH, lab	S.U.	6.5-9.0 [A]	7.90	7.92	7.92	7.80	7.91	7.94	7.90	7.84
Phenolphthalein Alkalinity	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phosphorus, Total	mg/L	n/v	0.0044	0.0040	0.0046	0.0043	0.0045	0.0029	0.0050	0.0053
Sulfate	mg/L	n/v	8.54	7.86	7.88	7.84	8.12	7.84	7.90	7.67
Total Dissolved Solids	mg/L	n/v	60.3	48.7	69.0	66.8	53.7	53.7	63.0	69.2
Total Organic Carbon	mg/L	n/v	3.32	2.76	3.22	2.82	2.81	3.02	3.17	2.82
Total Suspended Solids	mg/L	$_{SN}$ [A]	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
BTEX and Petroleum Hydrocarbons										
Benzene	µg/L	370 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	2 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	90 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m & p-	µg/L	n/v	<0.50	<0.40	<0.50	<0.50	<0.50	<0.40	<0.50	<0.50
Xylene, o-	µg/L	n/v	<0.50	<0.30	<0.50	<0.50	<0.50	<0.30	<0.50	<0.50
Xylenes, Total	µg/L	n/v	<0.75	<0.50	<0.75	<0.75	<0.75	<0.50	<0.75	<0.75
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	-	<0.50	-	-	-	<0.50	-	-
Styrene	µg/L	72 [A]	-	<0.50	-	-	-	<0.50	-	-
PHC F1 (C6-C10 range)	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F1 (C6-C10 range) minus BTEX	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F2 (>C10-C16 range)	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F3 (>C16-C34 range)	µg/L	n/v	<250	<100	<250	<250	<250	<100	<250	<250
PHC F4 (>C34-C50 range)	µg/L	n/v	<250	<300	<250	<250	<250	<300	<250	<250
Total BTEX (Calc)	µg/L	n/v	<1.2	<300	<1.2	<1.2	<1.2	<300	<1.2	<1.2
Total Hydrocarbons (C6-C50)	µg/L	n/v	<400	<300	<400	<400	<400	<300	<400	<400
Metals, Dissolved										
Calcium	mg/L	n/v	12.1	11.7	11.9	12.5	12.0	12.0	12.2	12.4
Magnesium	mg/L	n/v	2.98	2.90	3.20	2.96	2.96	2.95	3.40	2.94
Potassium	mg/L	n/v	1.50	1.55	1.50	1.46	1.51	1.55	1.55	1.44
Sodium	mg/L	n/v	2.31	2.37	2.50	2.32	2.34	2.38	2.51	2.32

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			SNP 2016-11b1				SNP 2016-11b2			
Sample Date			14-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24	14-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24
Sample ID			GLG-2024-00001-010	GLG-2024-00002-010	GLG-2024-00003-010	GLG-2024-00004-010	GLG-2024-00001-011	GLG-2024-00002-011	GLG-2024-00003-011	GLG-2024-00004-011
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order			YL2400673	YL2400874	YL2401240	YL2401501	YL2400673	YL2400874	YL2401240	YL2401501
Laboratory Sample ID			YL2400673-001	YL2400874-002	YL2401240-008	YL2401501-007	YL2400673-002	YL2400874-004	YL2401240-009	YL2401501-008
Sample Type	Units	CCME								
Metals, Total										
Aluminum	mg/L	0.005/0.1$_{VAR1}$[A]	0.0092	0.0080	0.0117	0.0106	0.0082	0.0108	0.0108	0.0112
Antimony	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic	mg/L	0.005[A]	0.00030	0.00030	0.00036	0.00034	0.00026	0.00030	0.00033	0.00035
Barium	mg/L	n/v	0.00462	0.00440	0.00490	0.00446	0.00431	0.00479	0.00458	0.00432
Beryllium	mg/L	n/v	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth	mg/L	n/v	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron	mg/L	1.5[A]	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium	mg/L	0.00009$_{LTG}$[A]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium	mg/L	n/v	12.8	12.8	11.3	12.2	12.8	12.9	11.7	12.5
Cesium	mg/L	n/v	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium	mg/L	n/v	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Copper	mg/L	0.002/0.004$_{TBC1}$[A]	0.00056	0.00054	0.00061	0.00054	0.00051	0.00056	0.00061	0.00053
Iron	mg/L	0.3[A]	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead	mg/L	0.001/0.007$_{TBC1}$[A]	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Lithium	mg/L	n/v	0.0019	0.0021	0.0019	0.0021	0.0019	0.0022	0.0019	0.0021
Magnesium	mg/L	n/v	3.27	2.95	3.23	2.99	3.16	2.96	3.06	3.14
Manganese	mg/L	n/v	0.00232	0.00211	0.00270	0.00229	0.00243	0.00214	0.00275	0.00303
Mercury	mg/L	0.000026[A]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum	mg/L	0.073[A]	0.000089	0.000090	0.000078	0.000096	0.000082	0.000089	0.000079	0.000091
Nickel	mg/L	0.025/0.15$_{TBC1}$[A]	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus	mg/L	n/v	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium	mg/L	n/v	1.51	1.50	1.70	1.45	1.50	1.50	1.59	1.47
Rubidium	mg/L	n/v	0.00197	0.00188	0.00220	0.00202	0.00188	0.00191	0.00213	0.00222
Selenium	mg/L	0.001[A]	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Silicon	mg/L	n/v	0.22	0.15	0.18	0.15	0.19	0.14	0.16	0.16
Silver	mg/L	0.00025[A]	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium	mg/L	n/v	2.49	2.43	2.60	2.39	2.45	2.40	2.48	2.48
Strontium	mg/L	n/v	0.0448	0.0482	0.0454	0.0480	0.0468	0.0485	0.0459	0.0451
Sulfur	mg/L	n/v	2.94	2.75	2.74	2.58	2.87	2.67	2.74	2.41
Tellurium	mg/L	n/v	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium	mg/L	0.0008[A]	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium	mg/L	n/v	0.00037	<0.00030	<0.00030	<0.00030	0.00036	<0.00030	<0.00030	0.00039
Tungsten	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium	mg/L	0.015[A]	0.000092	0.000105	0.000106	0.000108	0.000092	0.000105	0.000100	0.000108
Vanadium	mg/L	n/v	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc	mg/L	n/v	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium	mg/L	n/v	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			SNP 2016-11b3				SNP 2016-11b4			
Sample Date			14-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24	14-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24
Sample ID			GLG-2024-00001-012	GLG-2024-00002-012	GLG-2024-00003-012	GLG-2024-00004-012	GLG-2024-00001-013	GLG-2024-00002-013	GLG-2024-00003-013	GLG-2024-00004-013
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order			YL2400673	YL2400874	YL2401240	YL2401501	YL2400673	YL2400874	YL2401240	YL2401501
Laboratory Sample ID			YL2400673-003	YL2400874-003	YL2401240-010	YL2401501-009	YL2400673-004	YL2400874-001	YL2401240-011	YL2401501-010
Sample Type	Units	CCME								
General Chemistry										
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	48.7	40.9	41.1	42.3	41.6	40.7	40.6	41.5
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Total	mg/L	n/v	48.7	40.9	41.1	42.3	41.6	40.7	40.6	41.5
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	<0.0050	<0.0050	<0.0050	0.0066	<0.0050	<0.0050	<0.0050	<0.0050
Chloride	mg/L	120 [A]	1.49	1.44	1.44	1.42	1.46	1.44	1.44	1.40
Electrical Conductivity, Lab	µS/cm	n/v	122	99.9	99.0	103	103	101	103	100
Hardness (as CaCO3)	mg/L	n/v	42.6	42.2	45.4	44.4	41.9	42.0	45.0	44.5
Hardness (as CaCO3)	mg/L	n/v	46.1	44.2	42.3	45.5	43.9	43.0	41.2	43.3
Nitrate	mg/L	13 [A]	<0.022	<0.022	<0.022	<0.022	0.064	<0.022	<0.022	<0.022
Nitrate (as N)	mg/L	3.0 [A]	<0.0050	<0.0050	<0.0050	<0.0050	0.0145	<0.0050	<0.0050	<0.0050
Nitrate + Nitrite (as N)	mg/L	n/v	<0.0051	<0.0051	<0.0051	<0.0051	0.0145	<0.0051	<0.0051	<0.0051
Nitrite	mg/L	0.197_{n1} [A]	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
Nitrite (as N)	mg/L	0.06 [A]	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Orthophosphate (as P)	mg/L	n/v	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
pH, lab	S.U.	6.5-9.0 [A]	8.22	7.92	7.79	7.86	7.90	7.91	7.79	7.86
Phenolphthalein Alkalinity	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phosphorus, Total	mg/L	n/v	0.0073	0.0045	0.0050	0.0053	0.0061	0.0042	0.0043	0.0047
Sulfate	mg/L	n/v	9.92	7.88	7.90	8.11	8.07	7.86	7.90	7.59
Total Dissolved Solids	mg/L	n/v	58.3	58.7	62.3	68.5	59.7	56.3	67.3	63.5
Total Organic Carbon	mg/L	n/v	2.93	2.83	3.09	3.00	2.57	2.60	3.08	2.95
Total Suspended Solids	mg/L	$_{SN}$ [A]	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
BTEX and Petroleum Hydrocarbons										
Benzene	µg/L	370 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	2 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	90 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m & p-	µg/L	n/v	<0.50	<0.40	<0.50	<0.50	<0.50	<0.40	<0.50	<0.50
Xylene, o-	µg/L	n/v	<0.50	<0.30	<0.50	<0.50	<0.50	<0.30	<0.50	<0.50
Xylenes, Total	µg/L	n/v	<0.75	<0.50	<0.75	<0.75	<0.75	<0.50	<0.75	<0.75
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	-	<0.50	-	-	-	<0.50	-	-
Styrene	µg/L	72 [A]	-	<0.50	-	-	-	<0.50	-	-
PHC F1 (C6-C10 range)	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F1 (C6-C10 range) minus BTEX	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F2 (>C10-C16 range)	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F3 (>C16-C34 range)	µg/L	n/v	<250	<100	<250	<250	<250	<100	<250	<250
PHC F4 (>C34-C50 range)	µg/L	n/v	<250	<300	<250	<250	<250	<300	<250	<250
Total BTEX (Calc)	µg/L	n/v	<1.2	<300	<1.2	<1.2	<1.2	<300	<1.2	<1.2
Total Hydrocarbons (C6-C50)	µg/L	n/v	<400	<300	<400	<400	<400	<300	<400	<400
Metals, Dissolved										
Calcium	mg/L	n/v	12.0	12.1	12.2	12.8	12.0	12.0	12.6	12.8
Magnesium	mg/L	n/v	3.08	2.90	3.62	3.02	2.90	2.92	3.30	3.05
Potassium	mg/L	n/v	1.50	1.53	1.54	1.46	1.48	1.54	1.50	1.48
Sodium	mg/L	n/v	2.35	2.38	2.67	2.43	2.27	2.38	2.57	2.45

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			SNP 2016-11b3				SNP 2016-11b4			
Sample Date			14-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24	14-Jun-24	10-Jul-24	20-Aug-24	12-Sep-24
Sample ID			GLG-2024-00001-012	GLG-2024-00002-012	GLG-2024-00003-012	GLG-2024-00004-012	GLG-2024-00001-013	GLG-2024-00002-013	GLG-2024-00003-013	GLG-2024-00004-013
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order			YL2400673	YL2400874	YL2401240	YL2401501	YL2400673	YL2400874	YL2401240	YL2401501
Laboratory Sample ID			YL2400673-003	YL2400874-003	YL2401240-010	YL2401501-009	YL2400673-004	YL2400874-001	YL2401240-011	YL2401501-010
Sample Type	Units	CCME								
Metals, Total										
Aluminum	mg/L	0.005/0.1$_{VAR1}$[A]	0.0309	0.0147	0.0122	0.0131	0.0070	0.0057	0.0112	0.0145
Antimony	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic	mg/L	0.005[A]	0.00029	0.00033	0.00033	0.00031	0.00028	0.00032	0.00032	0.00038
Barium	mg/L	n/v	0.00514	0.00443	0.00466	0.00438	0.00454	0.00434	0.00440	0.00445
Beryllium	mg/L	n/v	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth	mg/L	n/v	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron	mg/L	1.5[A]	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium	mg/L	0.00009$_{LTG}$[A]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium	mg/L	n/v	12.9	12.9	11.7	12.8	12.3	12.4	11.5	12.0
Cesium	mg/L	n/v	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium	mg/L	n/v	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Copper	mg/L	0.002/0.004$_{TBC1}$[A]	0.00067	0.00065	0.00059	0.00054	0.00052	0.00108	0.00062	0.00056
Iron	mg/L	0.3[A]	0.033	0.012	<0.010	0.014	<0.010	<0.010	<0.010	0.013
Lead	mg/L	0.001/0.007$_{TBC1}$[A]	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Lithium	mg/L	n/v	0.0020	0.0022	0.0019	0.0022	0.0019	0.0021	0.0019	0.0022
Magnesium	mg/L	n/v	3.38	2.92	3.18	3.28	3.21	2.92	3.03	3.24
Manganese	mg/L	n/v	0.00445	0.00321	0.00266	0.00464	0.00228	0.00075	0.00276	0.00302
Mercury	mg/L	0.000026[A]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum	mg/L	0.073[A]	0.000080	0.000103	0.000085	0.000103	0.000084	0.000112	0.000089	0.000088
Nickel	mg/L	0.025/0.15$_{TBC1}$[A]	0.00052	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus	mg/L	n/v	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium	mg/L	n/v	1.54	1.50	1.66	1.47	1.51	1.48	1.58	1.50
Rubidium	mg/L	n/v	0.00201	0.00199	0.00221	0.00210	0.00196	0.00194	0.00204	0.00218
Selenium	mg/L	0.001[A]	<0.000050	0.000052	0.000051	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Silicon	mg/L	n/v	0.23	0.14	0.16	0.16	0.19	0.14	0.17	0.17
Silver	mg/L	0.00025[A]	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium	mg/L	n/v	2.60	2.41	2.53	2.46	2.47	2.43	2.47	2.42
Strontium	mg/L	n/v	0.0468	0.0483	0.0451	0.0476	0.0433	0.0477	0.0456	0.0461
Sulfur	mg/L	n/v	3.49	2.53	2.78	2.77	2.89	2.65	2.91	2.54
Tellurium	mg/L	n/v	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium	mg/L	0.0008[A]	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00016	<0.00010	<0.00010
Tin	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium	mg/L	n/v	0.00126	0.00043	<0.00030	0.00041	<0.00030	<0.00030	<0.00030	0.00045
Tungsten	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium	mg/L	0.015[A]	0.000107	0.000106	0.000105	0.000111	0.000093	0.000110	0.000102	0.000104
Vanadium	mg/L	n/v	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc	mg/L	n/v	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium	mg/L	n/v	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			SNP 2016-11c				SNP 2016-11d	SNP 2016-11d	SNP 2016-11d	SNP 2016-11d
Sample Date			13-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24	13-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24
Sample ID			GLG-2024-00001-014	GLG-2024-00002-014	GLG-2024-00003-014	GLG-2024-00004-014	GLG-2024-00001-015	GLG-2024-00002-015	GLG-2024-00003-015	GLG-2024-00004-015
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order			YL2400666	YL2400890	YL2401272	YL2401469	YL2400666	YL2400890	YL2401272	YL2401469
Laboratory Sample ID			YL2400666-005	YL2400890-003	YL2401272-004	YL2401469-002	YL2400666-001	YL2400890-005	YL2401272-001	YL2401469-003
Sample Type	Units	CCME								
General Chemistry										
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	42.0	41.0	45.3	41.6	67.5	81.5	98.5	90.7
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Total	mg/L	n/v	42.0	41.0	45.3	41.6	67.5	81.5	98.5	90.7
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	<0.0050	<0.0050	0.0069	<0.0050	0.0151	0.0199	0.0262	0.0487
Chloride	mg/L	120 [A]	1.39	1.42	1.40	1.42	<0.50	0.62	0.58	0.63
Electrical Conductivity, Lab	µS/cm	n/v	104	104	98.0	99.3	184	182	189	187
Hardness (as CaCO3)	mg/L	n/v	44.8	44.9	42.5	42.4	86.2	84.8	88.4	90.4
Hardness (as CaCO3)	mg/L	n/v	45.7	42.4	42.2	43.4	89.9	87.0	92.4	88.5
Nitrate	mg/L	13 [A]	<0.022	<0.022	0.022	<0.022	<0.022	<0.022	0.041	0.048
Nitrate (as N)	mg/L	3.0 [A]	<0.0050	<0.0050	0.0051	<0.0050	<0.0050	<0.0050	0.0093	0.0109
Nitrate + Nitrite (as N)	mg/L	n/v	<0.0051	<0.0051	0.0051	<0.0051	<0.0051	<0.0051	0.0093	0.0109
Nitrite	mg/L	0.197_{n1} [A]	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
Nitrite (as N)	mg/L	0.06 [A]	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Orthophosphate (as P)	mg/L	n/v	<0.0010	<0.0010	0.0013 HTA	<0.0010	<0.0010	<0.0010	0.0017 HTA	<0.0010
pH, lab	S.U.	6.5-9.0 [A]	7.88	7.86	7.96	7.86	7.75	8.10	7.87	7.94
Phenolphthalein Alkalinity	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phosphorus, Total	mg/L	n/v	0.0083	0.0037	0.0049	0.0046	0.0204	0.0173	0.0836	0.0248
Sulfate	mg/L	n/v	7.45	7.72	7.49	7.78	20.1	8.67	8.68	7.97
Total Dissolved Solids	mg/L	n/v	54.8	50.5	62.2	64.5	156	130	173	169
Total Organic Carbon	mg/L	n/v	3.18	2.95	3.11	2.60	25.9	25.0	30.4	24.4
Total Suspended Solids	mg/L	$_{SN}$ [A]	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	11.1	5.0
BTEX and Petroleum Hydrocarbons										
Benzene	µg/L	370 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	2 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	90 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m & p-	µg/L	n/v	<0.50	<0.40	<0.50	<0.50	<0.50	<0.40	<0.50	<0.50
Xylene, o-	µg/L	n/v	<0.50	<0.30	<0.50	<0.50	<0.50	<0.30	<0.50	<0.50
Xylenes, Total	µg/L	n/v	<0.75	<0.50	<0.75	<0.75	<0.75	<0.50	<0.75	<0.75
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	-	<0.50	-	-	-	<0.50	-	-
Styrene	µg/L	72 [A]	-	<0.50	-	-	-	<0.50	-	-
PHC F1 (C6-C10 range)	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F1 (C6-C10 range) minus BTEX	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F2 (>C10-C16 range)	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F3 (>C16-C34 range)	µg/L	n/v	<250	<100	<250	<250	<250	<100	<250	<250
PHC F4 (>C34-C50 range)	µg/L	n/v	<250	<300	<250	<250	<250	<300	<250	<250
Total BTEX (Calc)	µg/L	n/v	<1.2	<300	<1.2	<1.2	<1.2	<300	<1.2	<1.2
Total Hydrocarbons (C6-C50)	µg/L	n/v	<400	<300	<400	<400	<400	<300	<400	<400
Metals, Dissolved										
Calcium	mg/L	n/v	12.6	12.7	12.1	12.2	23.0	22.3	22.3	24.0
Magnesium	mg/L	n/v	3.24	3.21	2.99	2.90	6.99	7.06	7.94	7.41
Potassium	mg/L	n/v	1.66	1.51	1.50	1.47	1.95	2.74	2.68	2.73
Sodium	mg/L	n/v	2.34	2.46	2.37	2.26	3.90	5.24	5.91	5.61

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			SNP 2016-11c				SNP 2016-11d	SNP 2016-11d	SNP 2016-11d	SNP 2016-11d
Sample Date			13-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24	13-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24
Sample ID			GLG-2024-00001-014	GLG-2024-00002-014	GLG-2024-00003-014	GLG-2024-00004-014	GLG-2024-00001-015	GLG-2024-00002-015	GLG-2024-00003-015	GLG-2024-00004-015
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order			YL2400666	YL2400890	YL2401272	YL2401469	YL2400666	YL2400890	YL2401272	YL2401469
Laboratory Sample ID			YL2400666-005	YL2400890-003	YL2401272-004	YL2401469-002	YL2400666-001	YL2400890-005	YL2401272-001	YL2401469-003
Sample Type	Units	CCME								
Metals, Total										
Aluminum	mg/L	0.005/0.1$_{VAR1}$[A]	0.0102	0.0100	0.0072	0.0092	0.0374	0.0165	**0.183**[A]	0.0143
Antimony	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic	mg/L	0.005[A]	0.00028	0.00032	0.00040	0.00035	0.00298	0.00479	0.00481	0.00321
Barium	mg/L	n/v	0.00467	0.00459	0.00423	0.00450	0.0160	0.0160	0.0209	0.0154
Beryllium	mg/L	n/v	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth	mg/L	n/v	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron	mg/L	1.5[A]	<0.010	<0.010	0.012	<0.010	0.013	<0.010	0.012	0.011
Cadmium	mg/L	0.00009$_{LTG}$[A]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium	mg/L	n/v	12.9	11.9	12.0	12.3	23.6	22.2	23.5	23.2
Cesium	mg/L	n/v	<0.000010	<0.000010	<0.000010	<0.000010	0.000023	0.000021	0.000054	0.000020
Chromium	mg/L	n/v	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00090	<0.00050
Cobalt	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	0.00154	0.00047	0.00132	0.00062
Copper	mg/L	0.002/0.004$_{TBC1}$[A]	0.00056	0.00055	<0.00050	<0.00050	<0.00050	<0.00050	0.00154	<0.00050
Iron	mg/L	0.3[A]	<0.010	<0.010	<0.010	<0.010	0.093	0.052	**0.321**[A]	0.049
Lead	mg/L	0.001/0.007$_{TBC1}$[A]	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000089	<0.000050
Lithium	mg/L	n/v	0.0021	0.0020	0.0014	0.0021	0.0074	0.0074	0.0079	0.0078
Magnesium	mg/L	n/v	3.28	3.07	2.97	3.09	7.52	7.66	8.20	7.42
Manganese	mg/L	n/v	0.00269	0.00224	0.00220	0.00188	0.0778	0.0271	0.119	0.0593
Mercury	mg/L	0.000026[A]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum	mg/L	0.073[A]	0.000090	0.000084	0.000092	0.000092	<0.000050	0.000097	0.000072	0.000066
Nickel	mg/L	0.025/0.15$_{TBC1}$[A]	<0.00050	<0.00050	<0.00050	<0.00050	0.0169	0.00885	0.00912	0.00699
Phosphorus	mg/L	n/v	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.062	<0.050
Potassium	mg/L	n/v	1.62	1.64	1.53	1.49	2.05	3.25	2.93	2.58
Rubidium	mg/L	n/v	0.00213	0.00213	0.00199	0.00213	0.00306	0.00446	0.00471	0.00379
Selenium	mg/L	0.001[A]	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Silicon	mg/L	n/v	0.20	0.16	0.13	0.15	0.46	0.25	0.84	0.53
Silver	mg/L	0.00025[A]	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium	mg/L	n/v	2.59	2.43	2.41	2.30	4.45	5.62	5.94	5.32
Strontium	mg/L	n/v	0.0467	0.0457	0.0468	0.0457	0.0915	0.109	0.116	0.106
Sulfur	mg/L	n/v	2.90	2.61	2.80	2.86	7.98	3.68	4.16	3.74
Tellurium	mg/L	n/v	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium	mg/L	0.0008[A]	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium	mg/L	n/v	0.00034	<0.00030	<0.00030	<0.00030	0.00035	<0.00030	0.0120	<0.00030
Tungsten	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium	mg/L	0.015[A]	0.000095	0.000106	0.000095	0.000100	0.000029	0.000057	0.000073	0.000055
Vanadium	mg/L	n/v	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00087	0.00056
Zinc	mg/L	n/v	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium	mg/L	n/v	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			SNP 2016-11e				SNP 2016-11f			
Sample Date			13-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24	13-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24
Sample ID			GLG-2024-00001-016	GLG-2024-00002-016	GLG-2024-00003-016	GLG-2024-00004-016	GLG-2024-00001-017	GLG-2024-00002-017	GLG-2024-00003-017	GLG-2024-00004-017
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order			YL2400666	YL2400890	YL2401272	YL2401469	YL2400666	YL2400890	YL2401272	YL2401469
Laboratory Sample ID			YL2400666-002	YL2400890-006	YL2401272-002	YL2401469-004	YL2400666-006	YL2400890-004	YL2401272-003	YL2401469-005
Sample Type	Units	CCME								
General Chemistry										
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	39.7	41.5	48.4	41.8	41.8	41.3	46.6	41.3
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Total	mg/L	n/v	39.7	41.5	48.4	41.8	41.8	41.3	46.6	41.3
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0054	<0.0050	<0.0050
Chloride	mg/L	120 [A]	1.34	1.42	1.40	1.42	1.40	1.42	1.40	1.42
Electrical Conductivity, Lab	µS/cm	n/v	100	103	98.6	99.0	105	104	97.2	99.6
Hardness (as CaCO3)	mg/L	n/v	42.7	43.8	42.6	43.6	44.4	42.7	42.6	43.2
Hardness (as CaCO3)	mg/L	n/v	43.2	44.4	43.7	42.9	45.1	44.1	42.8	41.6
Nitrate	mg/L	13 [A]	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
Nitrate (as N)	mg/L	3.0 [A]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nitrate + Nitrite (as N)	mg/L	n/v	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051
Nitrite	mg/L	0.197_{n1} [A]	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
Nitrite (as N)	mg/L	0.06 [A]	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Orthophosphate (as P)	mg/L	n/v	<0.0010	<0.0010	0.0012 HTA	<0.0010	<0.0010	<0.0010	<0.0010 HTA	<0.0010
pH, lab	S.U.	6.5-9.0 [A]	7.88	7.85	7.96	7.86	7.89	7.86	8.00	7.90
Phenolphthalein Alkalinity	mg/L	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phosphorus, Total	mg/L	n/v	0.0071	0.0032	0.0043	0.0054	0.0077	0.0040	0.0033	0.0076
Sulfate	mg/L	n/v	7.18	7.14	7.52	7.73	7.61	7.72	7.67	7.74
Total Dissolved Solids	mg/L	n/v	60.8	57.2	58.5	65.5	55.2	50.2	61.2	60.5
Total Organic Carbon	mg/L	n/v	3.61	2.90	2.98	2.91	2.96	2.94	3.34	2.68
Total Suspended Solids	mg/L	$_{SN}$ [A]	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
BTEX and Petroleum Hydrocarbons										
Benzene	µg/L	370 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	2 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	90 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m & p-	µg/L	n/v	<0.50	<0.40	<0.50	<0.50	<0.50	<0.40	<0.50	<0.50
Xylene, o-	µg/L	n/v	<0.50	<0.30	<0.50	<0.50	<0.50	<0.30	<0.50	<0.50
Xylenes, Total	µg/L	n/v	<0.75	<0.50	<0.75	<0.75	<0.75	<0.50	<0.75	<0.75
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	-	<0.50	-	-	-	<0.50	-	-
Styrene	µg/L	72 [A]	-	<0.50	-	-	-	<0.50	-	-
PHC F1 (C6-C10 range)	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F1 (C6-C10 range) minus BTEX	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F2 (>C10-C16 range)	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F3 (>C16-C34 range)	µg/L	n/v	<250	<100	<250	<250	<250	<100	<250	<250
PHC F4 (>C34-C50 range)	µg/L	n/v	<250	<300	<250	<250	<250	<300	<250	<250
Total BTEX (Calc)	µg/L	n/v	<1.2	<300	<1.2	<1.2	<1.2	<300	<1.2	<1.2
Total Hydrocarbons (C6-C50)	µg/L	n/v	<400	<300	<400	<400	<400	<300	<400	<400
Metals, Dissolved										
Calcium	mg/L	n/v	12.2	12.2	12.0	12.4	12.6	11.9	11.9	12.4
Magnesium	mg/L	n/v	2.98	3.24	3.06	3.06	3.15	3.16	3.13	2.98
Potassium	mg/L	n/v	1.55	1.54	1.50	1.52	1.65	1.50	1.49	1.51
Sodium	mg/L	n/v	2.26	2.50	2.41	2.38	2.35	2.41	2.38	2.33

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			SNP 2016-11e				SNP 2016-11f			
Sample Date			13-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24	13-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24
Sample ID			GLG-2024-00001-016	GLG-2024-00002-016	GLG-2024-00003-016	GLG-2024-00004-016	GLG-2024-00001-017	GLG-2024-00002-017	GLG-2024-00003-017	GLG-2024-00004-017
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order			YL2400666	YL2400890	YL2401272	YL2401469	YL2400666	YL2400890	YL2401272	YL2401469
Laboratory Sample ID			YL2400666-002	YL2400890-006	YL2401272-002	YL2401469-004	YL2400666-006	YL2400890-004	YL2401272-003	YL2401469-005
Sample Type	Units	CCME								
Metals, Total										
Aluminum	mg/L	0.005/0.1$_{VAR1}$[A]	0.0094	0.0279	0.0077	0.0094	0.0134	0.0119	0.0081	0.0090
Antimony	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic	mg/L	0.005[A]	0.00029	0.00034	0.00043	0.00035	0.00027	0.00033	0.00041	0.00036
Barium	mg/L	n/v	0.00449	0.00478	0.00424	0.00480	0.00476	0.00465	0.00427	0.00441
Beryllium	mg/L	n/v	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth	mg/L	n/v	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron	mg/L	1.5[A]	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	<0.010
Cadmium	mg/L	0.00009$_{LTG}$[A]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium	mg/L	n/v	12.3	12.6	12.5	12.2	12.8	12.5	12.1	11.8
Cesium	mg/L	n/v	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium	mg/L	n/v	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Copper	mg/L	0.002/0.004$_{TBC1}$[A]	0.00052	0.00057	0.00050	<0.00050	0.00058	0.00059	<0.00050	0.00053
Iron	mg/L	0.3[A]	<0.010	0.024	<0.010	<0.010	0.014	<0.010	<0.010	<0.010
Lead	mg/L	0.001/0.007$_{TBC1}$[A]	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Lithium	mg/L	n/v	0.0020	0.0021	0.0018	0.0021	0.0021	0.0021	0.0016	0.0021
Magnesium	mg/L	n/v	3.04	3.13	3.04	3.02	3.20	3.14	3.05	2.96
Manganese	mg/L	n/v	0.00318	0.00362	0.00372	0.00299	0.00271	0.00288	0.00300	0.00214
Mercury	mg/L	0.000026[A]	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum	mg/L	0.073[A]	0.000083	0.000092	0.000096	0.000096	0.000088	0.000100	0.000094	0.000095
Nickel	mg/L	0.025/0.15$_{TBC1}$[A]	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00050
Phosphorus	mg/L	n/v	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium	mg/L	n/v	1.56	1.68	1.55	1.49	1.63	1.66	1.54	1.44
Rubidium	mg/L	n/v	0.00207	0.00219	0.00207	0.00202	0.00216	0.00211	0.00209	0.00200
Selenium	mg/L	0.001[A]	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Silicon	mg/L	n/v	0.16	0.17	0.16	0.17	0.18	0.15	0.14	0.15
Silver	mg/L	0.00025[A]	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium	mg/L	n/v	2.46	2.45	2.42	2.31	2.62	2.38	2.43	2.29
Strontium	mg/L	n/v	0.0445	0.0472	0.0484	0.0462	0.0450	0.0460	0.0467	0.0439
Sulfur	mg/L	n/v	2.61	2.48	2.86	3.05	2.80	2.51	2.76	2.79
Tellurium	mg/L	n/v	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium	mg/L	0.0008[A]	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium	mg/L	n/v	<0.00030	0.00082	<0.00030	<0.00030	0.00032	<0.00030	<0.00030	<0.00030
Tungsten	mg/L	n/v	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium	mg/L	0.015[A]	0.000090	0.000104	0.000097	0.000095	0.000093	0.000103	0.000098	0.000104
Vanadium	mg/L	n/v	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc	mg/L	n/v	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium	mg/L	n/v	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			Field Blank				Trip Blank			
Sample Date			12-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24	12-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24
Sample ID			GLG-2024-00001-023	GLG-2024-00002-023	GLG-2024-00003-023	GLG-2024-00004-023	GLG-2024-00001-022	GLG-2024-00002-022	GLG-2024-00003-022	GLG-2024-00004-022
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order			YL2400658	YL2400890	YL2401272	YL2401469	YL2400658	YL2400890	YL2401272	YL2401469
Laboratory Sample ID			YL2400658-008	YL2400890-007	YL2401272-008	YL2401469-008	YL2400658-007	YL2400890-008	YL2401272-007	YL2401469-007
Sample Type	Units	CCME	Field Blank	Field Blank	Field Blank	Field Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
General Chemistry										
Alkalinity, Bicarbonate (as CaCO3)	mg/L	n/v	-	-	-	-	-	-	-	-
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	-	-	-	-	-	-	-	-
Alkalinity, Hydroxide (as CaCO3)	mg/L	n/v	-	-	-	-	-	-	-	-
Alkalinity, Total	mg/L	n/v	-	-	-	-	-	-	-	-
Ammonia (as N)	mg/L	$0.0173/190_{TBC2}$ [A]	-	-	-	-	-	-	-	-
Chloride	mg/L	120 [A]	-	-	-	-	-	-	-	-
Electrical Conductivity, Lab	µS/cm	n/v	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	mg/L	n/v	-	-	-	-	-	-	-	-
Hardness (as CaCO3)	mg/L	n/v	-	-	-	-	-	-	-	-
Nitrate	mg/L	13 [A]	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/L	3.0 [A]	-	-	-	-	-	-	-	-
Nitrate + Nitrite (as N)	mg/L	n/v	-	-	-	-	-	-	-	-
Nitrite	mg/L	0.197_{n1} [A]	-	-	-	-	-	-	-	-
Nitrite (as N)	mg/L	0.06 [A]	-	-	-	-	-	-	-	-
Orthophosphate (as P)	mg/L	n/v	-	-	-	-	-	-	-	-
pH, lab	S.U.	6.5-9.0 [A]	-	-	-	-	-	-	-	-
Phenolphthalein Alkalinity	mg/L	n/v	-	-	-	-	-	-	-	-
Phosphorus, Total	mg/L	n/v	-	-	-	-	-	-	-	-
Sulfate	mg/L	n/v	-	-	-	-	-	-	-	-
Total Dissolved Solids	mg/L	n/v	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/L	n/v	-	-	-	-	-	-	-	-
Total Suspended Solids	mg/L	$_{SN}$ [A]	-	-	-	-	-	-	-	-
BTEX and Petroleum Hydrocarbons										
Benzene	µg/L	370 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	µg/L	2 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	µg/L	90 [A]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m & p-	µg/L	n/v	<0.50	<0.40	<0.50	<0.50	<0.50	<0.40	<0.50	<0.50
Xylene, o-	µg/L	n/v	<0.50	<0.30	<0.50	<0.50	<0.50	<0.30	<0.50	<0.50
Xylenes, Total	µg/L	n/v	<0.75	<0.50	<0.75	<0.75	<0.75	<0.50	<0.75	<0.75
Methyl tert-butyl ether (MTBE)	µg/L	10,000 [A]	-	-	-	-	-	-	-	-
Styrene	µg/L	72 [A]	-	-	-	-	-	-	-	-
PHC F1 (C6-C10 range)	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F1 (C6-C10 range) minus BTEX	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F2 (>C10-C16 range)	µg/L	n/v	<100	<100	<100	<100	<100	<100	<100	<100
PHC F3 (>C16-C34 range)	µg/L	n/v	<250	<100	<250	<250	<250	<100	<250	<250
PHC F4 (>C34-C50 range)	µg/L	n/v	<250	<300	<250	<250	<250	<300	<250	<250
Total BTEX (Calc)	µg/L	n/v	<1.2	<300	<1.2	<1.2	<1.2	<300	<1.2	<1.2
Total Hydrocarbons (C6-C50)	µg/L	n/v	<400	<300	<400	<400	<400	<300	<400	<400
Metals, Dissolved										
Calcium	mg/L	n/v	-	-	-	-	-	-	-	-
Magnesium	mg/L	n/v	-	-	-	-	-	-	-	-
Potassium	mg/L	n/v	-	-	-	-	-	-	-	-
Sodium	mg/L	n/v	-	-	-	-	-	-	-	-

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

Sample Location			Field Blank				Trip Blank			
Sample Date			12-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24	12-Jun-24	11-Jul-24	22-Aug-24	11-Sep-24
Sample ID			GLG-2024-00001-023	GLG-2024-00002-023	GLG-2024-00003-023	GLG-2024-00004-023	GLG-2024-00001-022	GLG-2024-00002-022	GLG-2024-00003-022	GLG-2024-00004-022
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order			YL2400658	YL2400890	YL2401272	YL2401469	YL2400658	YL2400890	YL2401272	YL2401469
Laboratory Sample ID			YL2400658-008	YL2400890-007	YL2401272-008	YL2401469-008	YL2400658-007	YL2400890-008	YL2401272-007	YL2401469-007
Sample Type	Units	CCME	Field Blank	Field Blank	Field Blank	Field Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Metals, Total										
Aluminum	mg/L	$0.005/0.1_{VAR1}$[A]	-	-	-	-	-	-	-	-
Antimony	mg/L	n/v	-	-	-	-	-	-	-	-
Arsenic	mg/L	0.005[A]	-	-	-	-	-	-	-	-
Barium	mg/L	n/v	-	-	-	-	-	-	-	-
Beryllium	mg/L	n/v	-	-	-	-	-	-	-	-
Bismuth	mg/L	n/v	-	-	-	-	-	-	-	-
Boron	mg/L	1.5[A]	-	-	-	-	-	-	-	-
Cadmium	mg/L	0.00009_{LTG}[A]	-	-	-	-	-	-	-	-
Calcium	mg/L	n/v	-	-	-	-	-	-	-	-
Cesium	mg/L	n/v	-	-	-	-	-	-	-	-
Chromium	mg/L	n/v	-	-	-	-	-	-	-	-
Cobalt	mg/L	n/v	-	-	-	-	-	-	-	-
Copper	mg/L	$0.002/0.004_{TBC1}$[A]	-	-	-	-	-	-	-	-
Iron	mg/L	0.3[A]	-	-	-	-	-	-	-	-
Lead	mg/L	$0.001/0.007_{TBC1}$[A]	-	-	-	-	-	-	-	-
Lithium	mg/L	n/v	-	-	-	-	-	-	-	-
Magnesium	mg/L	n/v	-	-	-	-	-	-	-	-
Manganese	mg/L	n/v	-	-	-	-	-	-	-	-
Mercury	mg/L	0.000026[A]	-	-	-	-	-	-	-	-
Molybdenum	mg/L	0.073[A]	-	-	-	-	-	-	-	-
Nickel	mg/L	$0.025/0.15_{TBC1}$[A]	-	-	-	-	-	-	-	-
Phosphorus	mg/L	n/v	-	-	-	-	-	-	-	-
Potassium	mg/L	n/v	-	-	-	-	-	-	-	-
Rubidium	mg/L	n/v	-	-	-	-	-	-	-	-
Selenium	mg/L	0.001[A]	-	-	-	-	-	-	-	-
Silicon	mg/L	n/v	-	-	-	-	-	-	-	-
Silver	mg/L	0.00025[A]	-	-	-	-	-	-	-	-
Sodium	mg/L	n/v	-	-	-	-	-	-	-	-
Strontium	mg/L	n/v	-	-	-	-	-	-	-	-
Sulfur	mg/L	n/v	-	-	-	-	-	-	-	-
Tellurium	mg/L	n/v	-	-	-	-	-	-	-	-
Thallium	mg/L	0.0008[A]	-	-	-	-	-	-	-	-
Thorium	mg/L	n/v	-	-	-	-	-	-	-	-
Tin	mg/L	n/v	-	-	-	-	-	-	-	-
Titanium	mg/L	n/v	-	-	-	-	-	-	-	-
Tungsten	mg/L	n/v	-	-	-	-	-	-	-	-
Uranium	mg/L	0.015[A]	-	-	-	-	-	-	-	-
Vanadium	mg/L	n/v	-	-	-	-	-	-	-	-
Zinc	mg/L	n/v	-	-	-	-	-	-	-	-
Zirconium	mg/L	n/v	-	-	-	-	-	-	-	-

See Notes on last page.

Table B.5
Summary of Surface Water Analytical Results
Gordon Lake Group Sites Long-Term Monitoring Year 6

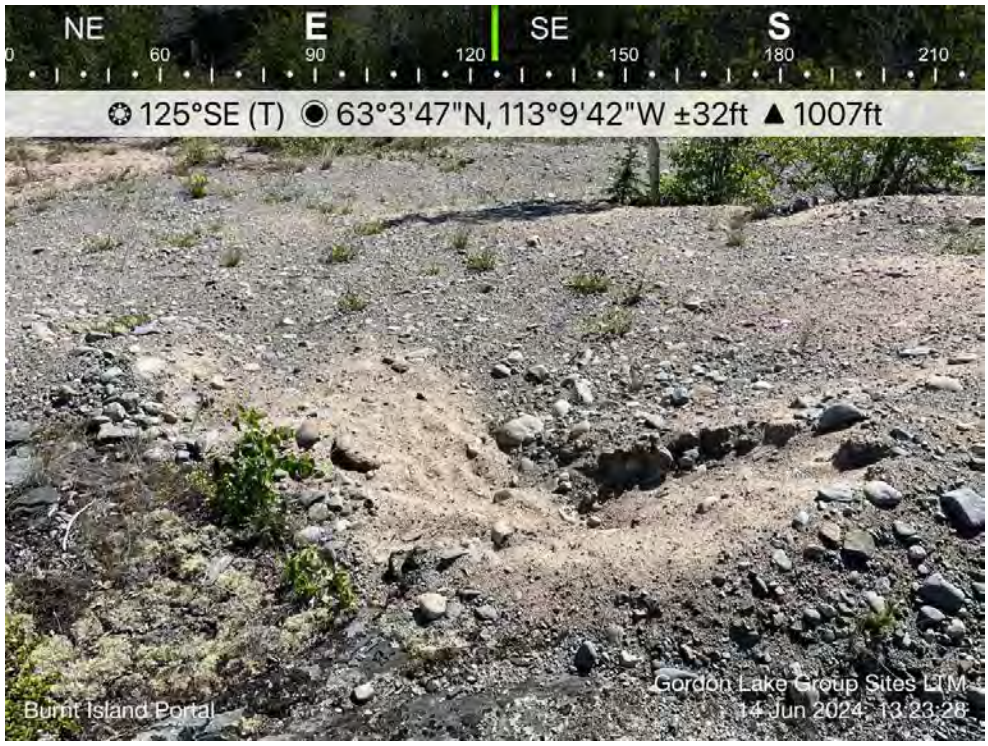
CCME	Canadian Council of Ministers of the Environment
A	Canadian Environmental Quality Guidelines, Canadian Water Quality Guidelines for the Protection of Aquatic Life - Freshwater Aquatics Long Term
6.5[A]	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
<0.50	Laboratory reporting limit was greater than the applicable standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
LTG	The CWQG for cadmium (i.e. long-term guideline) of 0.09 µg·L-1 is for waters of 50 mg CaCO3·L-1 hardness. The CWQG for cadmium is related to water hardness (as CaCO3): When the water hardness is > 0 to < 17 mg/L, the CWQG is 0.04 µg/L; at hardness ≥ 17 to ≤ 280 mg/L, the CWQG is calculated using this equation (CWQG (µg/L) = 10^{0.83(log[hardness]) – 2.46 }); At hardness > 280 mg/L, the CWQG is 0.37 µg/L.
n1	Guideline is expressed as Nitrite (as N) in ug/L. This value is equivalent to 197 ug/L for Nitrite.
SN	Narrative: Clear flow - Maximum increase of 25 mg/L from background levels for any short-term exposure (e.g., 24-h period). Maximum average increase of 5 mg/L from background levels for longer term exposures (e.g., inputs lasting between 24 h and 30 d). High flow - Maximum increase of 25 mg/L from background levels at any time when background levels are between 25 and 250 mg/L. Should not increase more than 10% of background levels when background is ≥ 250 mg/L.
TBC1	Value is minimum value available. Sample-specific value to be calculated (equation).
TBC2	To be calculated (equation), then the present guideline values (mg/L NH3) can be converted to mg/L total ammonia-N by multiplying the corresponding guideline value by 0.8224.
VAR1	Variable, 5 µg/L if pH < 6.5 and 100 µg/L if pH > 6.5
HTA	The sample was prepared and/or analyzed past the recommended holding time.
RRV	Reported result verified by repeat analysis.
BFD	Blind Field Duplicate
RPD	Relative Percent Difference.
61%	RPD exceeds data quality objective of 40%.
nc	RPD is not calculated if one or more values is not detected or if one or more values is less than five times the reportable detection limit.

Appendix C Photographic Log

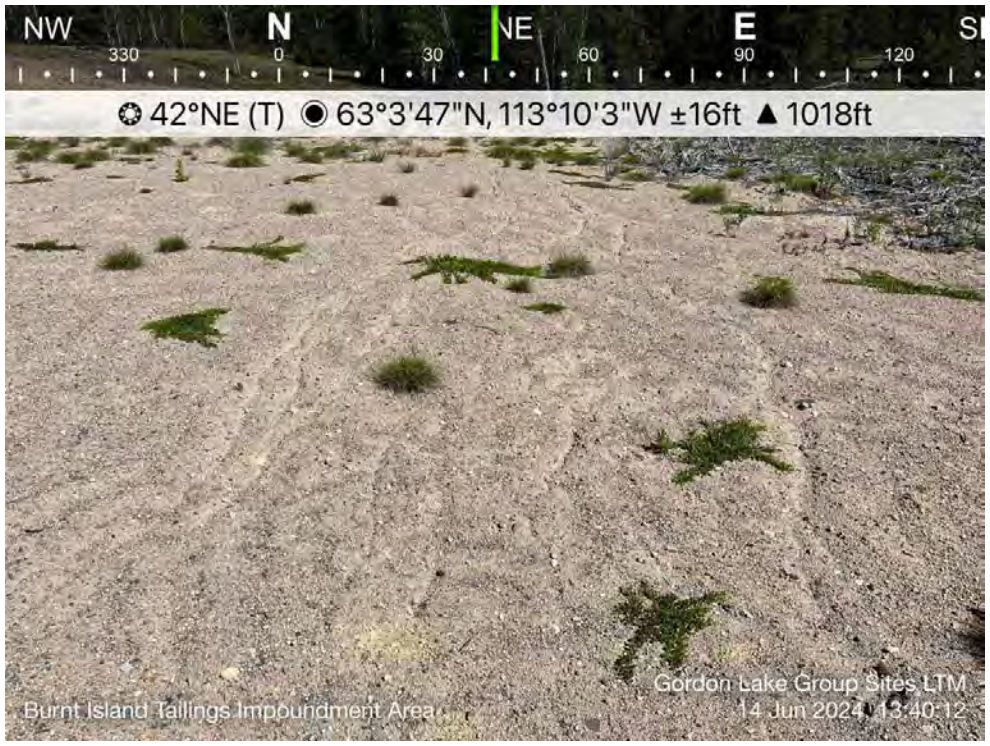
Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Burnt Island**

Photo Number: 1 **Photo Location:** Burnt Island **Direction:** West **Survey Date:** 7/11/2024 **Comments:** Aerial view of waste rock area	
Photo Number: 2 **Photo Location:** Burnt Island **Direction:** Northwest **Survey Date:** 7/11/2024 **Comments:** Aerial view of covered tailings area	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Burnt Island**

Photo Number: 3 **Photo Location:** Burnt Island **Direction:** West **Survey Date:** 6/14/2024 **Comments:** View of backfilled portal, facing uphill, minimal revegetation	
Photo Number: 4 **Photo Location:** Burnt Island **Direction:** Southeast **Survey Date:** 6/14/2024 **Comments:** View of backfilled portal, facing downhill, evidence of settlement	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Burnt Island**

Photo Number: 5 **Photo Location:** Burnt Island **Direction:** Northwest **Survey Date:** 6/14/2024 **Comments:** View of shaft area, evidence of settlng in southwest plug	
Photo Number: 6 **Photo Location:** Burnt Island **Direction:** Northeast **Survey Date:** 6/14/2024 **Comments:** View of covered tailings area with evidence of water flow on the surface	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Burnt Island**

Photo Number: 7 **Photo Location:** Burnt Island **Direction:** **Survey Date:** 6/14/2024 **Comments:** View of covered tailings area with evidence of water flow on the surface	

Photo Number: 8 **Photo Location:** Burnt Island **Direction:** Southeast **Survey Date:** 6/14/2024 **Comments:** View of covered tailings area with an animal burrow	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Burnt Island**

Photo Number: 9 **Photo Location:** Burnt Island **Direction:** Southest **Survey Date:** 6/14/2024 **Comments:** View of covered tailings area with an minimal revegetation observed	
Photo Number: 10 **Photo Location:** Burnt Island **Direction:** Southwest **Survey Date:** 6/14/2024 **Comments:** View of waste rock at BUR-WR-01, minimal revegetation observed	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Burnt Island**

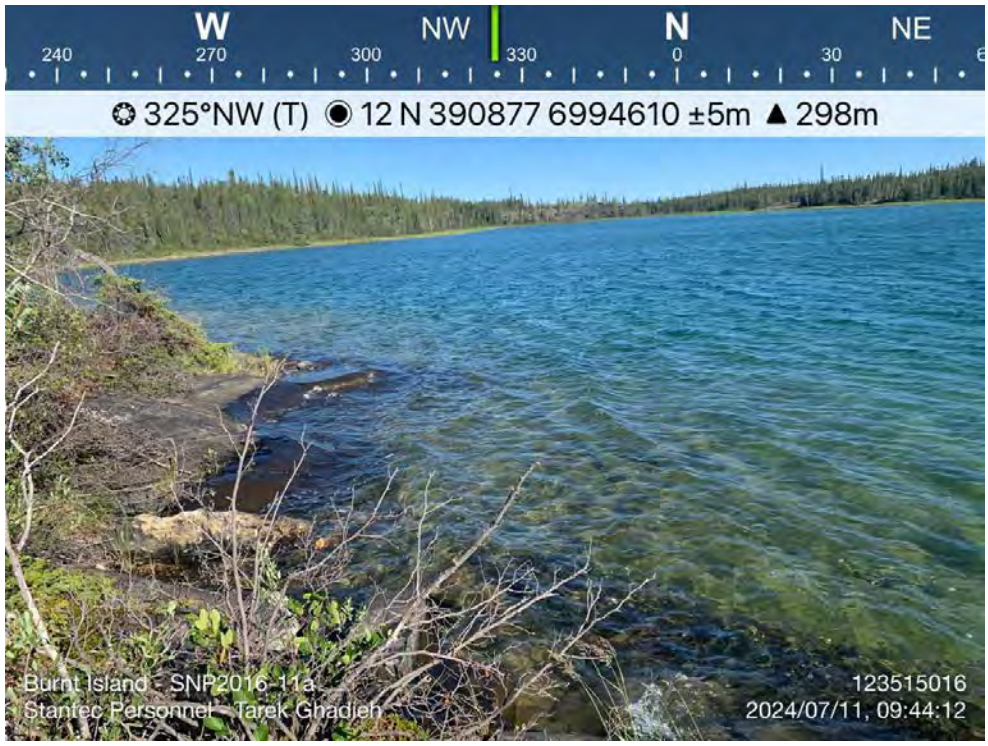
Photo Number:
11

Photo Location:
Burnt Island

Direction:
Northwest

Survey Date:
7/11/2024

Comments:
View from the shore of SNP 2016-11a



Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 12 **Photo Location:** Camlaren **Direction:** North **Survey Date:** 6/14/2024 **Comments:** Aerial view of Camlaren and the TSCA	
Photo Number: 13 **Photo Location:** Camlaren **Direction:** South **Survey Date:** 6/14/2024 **Comments:** Aerial view of Camlaren and the TSCA	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

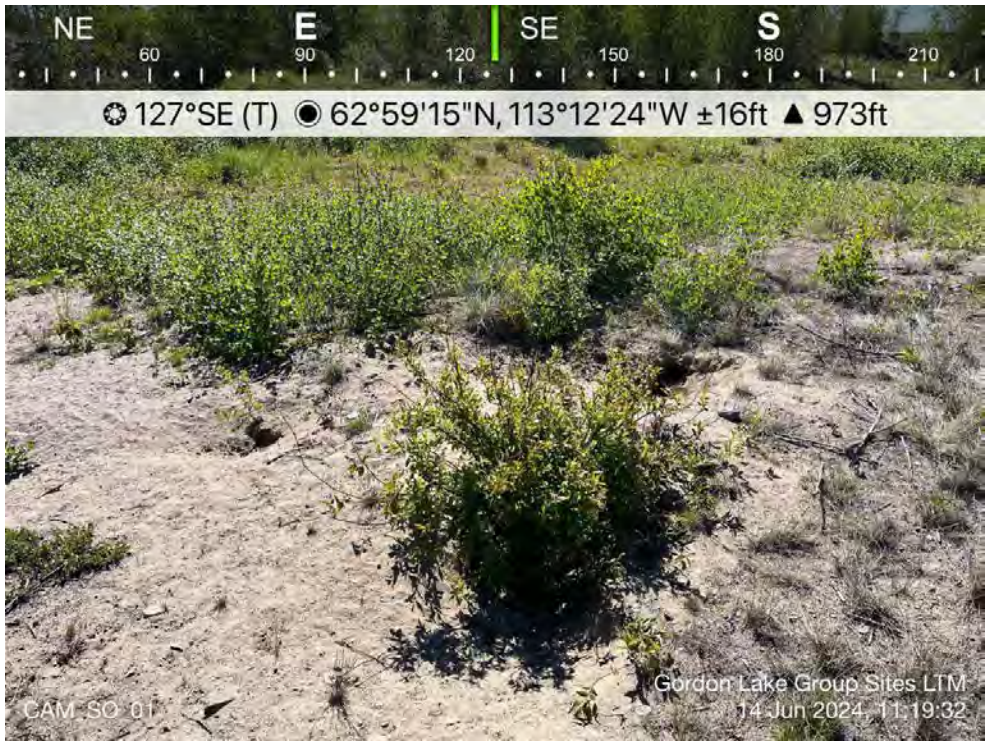
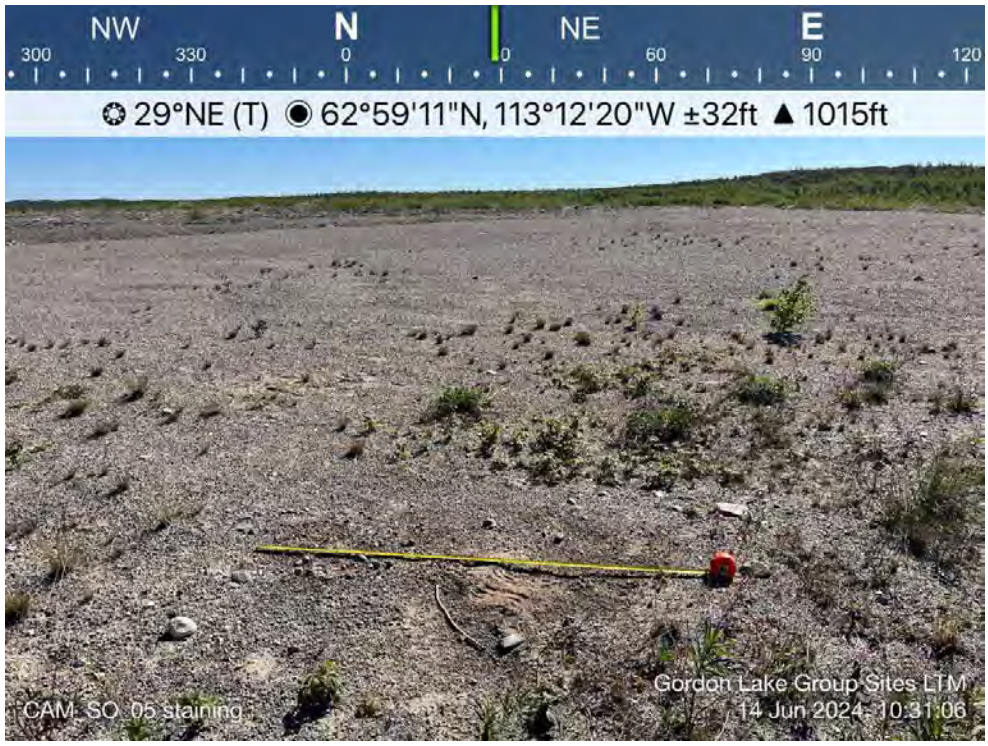
Photo Number: 14 **Photo Location:** Camlaren **Direction:** West **Survey Date:** 6/14/2024 **Comments:** Aerial view of Camlaren and the TSCA	
Photo Number: 15 **Photo Location:** Camlaren **Direction:** South **Survey Date:** 6/14/2024 **Comments:** View of CAM-SO-03, no evidence of erosion, some revegetation	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

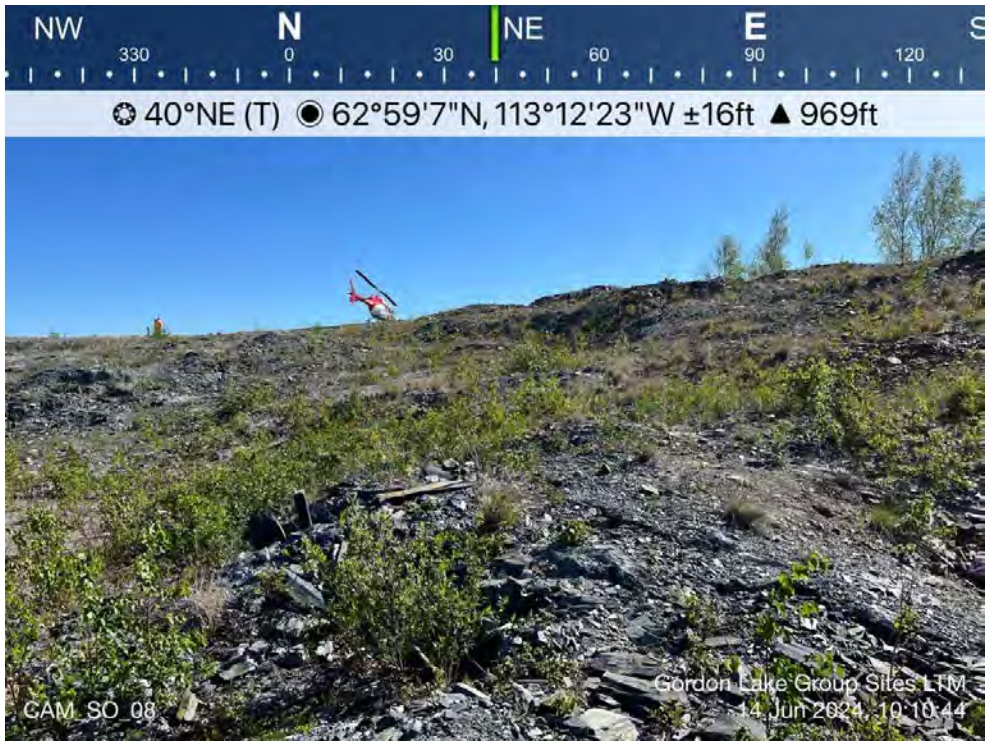
	
Photo Number: 16	
Photo Location: Camlaren	
Direction: North	
Survey Date: 8/20/2024	
Comments: View of CAM-SO-04, evidence of animal burrowing and overland flow, some revegetation	

	
Photo Number: 17	
Photo Location: Camlaren	
Direction: North	
Survey Date: 8/20/2024	
Comments: View of CAM-SO-07, no evidence of erosion, some revegetation	

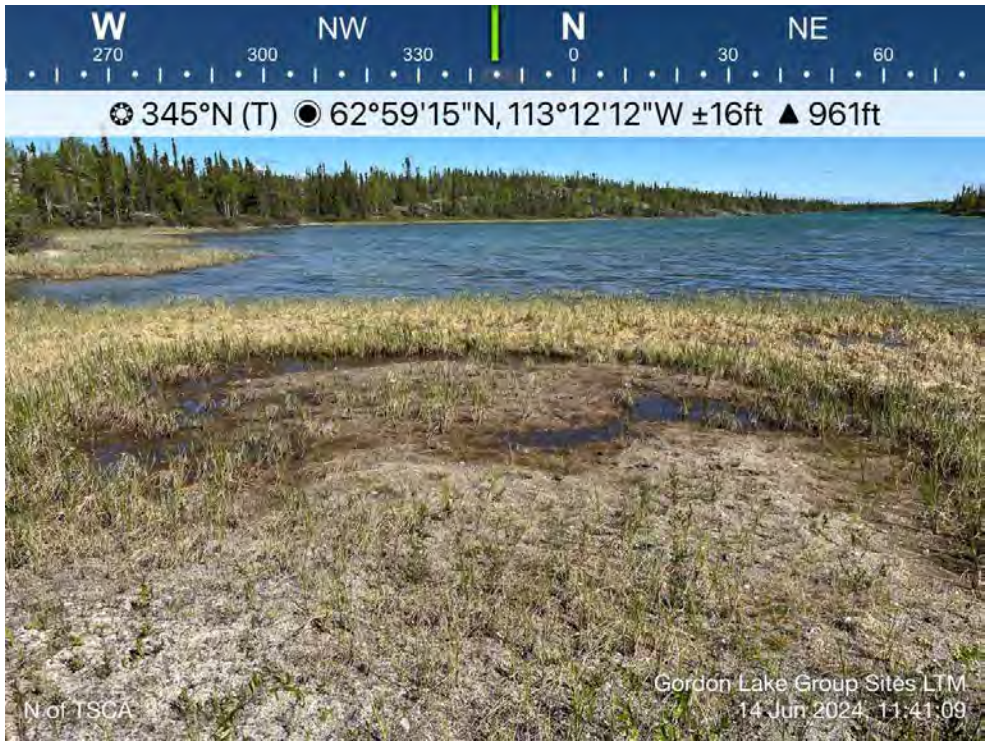
Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 18 **Photo Location:** Camlaren **Direction:** Southeast **Survey Date:** 6/14/2024 **Comments:** View of CAM-SO-01, evidence of animal burrowing, some revegetation observed	
Photo Number: 19 **Photo Location:** Camlaren **Direction:** North **Survey Date:** 12/5/2024 **Comments:** View of CAM-SO-05, evidence of staining, minimal revegetation	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 20 **Photo Location:** Camlaren **Direction:** West **Survey Date:** 6/14/2024 **Comments:** View of CAM-SO-06, evidence of overland water flow, erosion, and animal burrowing, minimal revegetation observed	
Photo Number: 21 **Photo Location:** Camlaren **Direction:** Northest **Survey Date:** 6/14/2024 **Comments:** View of CAM-SO-08, some revegetation observed	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 22 **Photo Location:** Camlaren **Direction:** North **Survey Date:** 6/14/2024 **Comments:** View of CAM-SO-20, some revegetation observed	
Photo Number: 23 **Photo Location:** Camlaren **Direction:** South **Survey Date:** 6/14/2024 **Comments:** View of CAM-SO-14, some revegetation observed	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 24 **Photo Location:** Camlaren **Direction:** South **Survey Date:** 6/14/2024 **Comments:** View of CAM-SO-12 Minimal revegetation observed	
Photo Number: 25 **Photo Location:** Camlaren **Direction:** West **Survey Date:** 9/11/2024 **Comments:** Evidence of bear digging in TSCA. Animal burrow is about 1.5 m long and 1 m deep. Bear claw marks observed	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 26 **Photo Location:** Camlaren **Direction:** West **Survey Date:** 9/11/2024 **Comments:** Evidence of water runoff near the approximate location of SNP 2016-8c	
Photo Number: 27 **Photo Location:** Camlaren **Direction:** West **Survey Date:** 9/11/2024 **Comments:** Evidence of animal burrow on TSCA, approximately 40 cm long and 50 cm deep	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 28 **Photo Location:** Camlaren **Direction:** Northwest **Survey Date:** 9/11/2024 **Comments:** Exposed liner on TSCA. Potentially dug up by animals	
Photo Number: 29 **Photo Location:** Camlaren **Direction:** Northwest **Survey Date:** 9/11/2024 **Comments:** Evidence of animal burrow on TSCA, approximately 40 cm long and 50 cm deep	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

	
Photo Number: 30	
Photo Location: Camlaren	
Direction: Northeast	
Survey Date: 9/11/2024	
Comments: Evidence of animal burrow on TSCA, approximately 10 cm long and 15 cm deep	
	
Photo Number: 31	
Photo Location: Camlaren	
Direction: North	
Survey Date: 9/11/2024	
Comments: Evidence of animal burrow on TSCA, approximately 60 cm long and 50 cm deep	

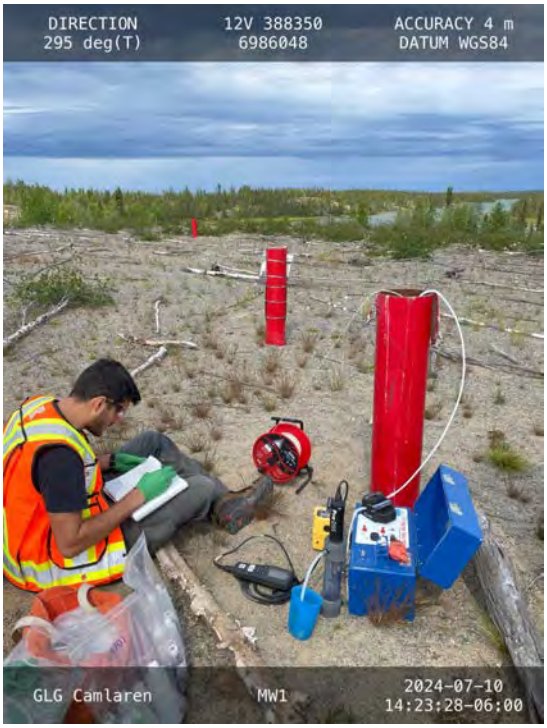
Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 32 **Photo Location:** Camlaren **Direction:** East **Survey Date:** 6/12/2024 **Comments:** Evidence of settling observed on the TSCA	
Photo Number: 33 **Photo Location:** Camlaren **Direction:** Noth **Survey Date:** 7/11/2024 **Comments:** K'alo Stantec personnel troubleshooting and servicing VB3	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 34 **Photo Location:** Camlaren **Direction:** West **Survey Date:** 7/11/2024 **Comments:** K'alo Stantec personnel troubleshooting and servicing VB1	
Photo Number: 35 **Photo Location:** Camlaren **Direction:** West **Survey Date:** 7/11/2024 **Comments:** K'alo Stantec personnel troubleshooting and servicing VT1	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 36 **Photo Location:** Camlaren **Direction:** West **Survey Date:** 7/10/2024 **Comments:** K'alo Stantec personnel sampling groundwater from MW1	
Photo Number: 37 **Photo Location:** Camlaren **Direction:** East **Survey Date:** 7/10/2024 **Comments:** K'alo Stantec personnel sampling groundwater from MW3	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

	
Photo Number: 38	
Photo Location: Camlaren	
Direction: Southeast	
Survey Date: 7/10/2024	
Comments: K'alo Stantec personnel sampling groundwater from MW4	
	
Photo Number: 39	
Photo Location: Camlaren	
Direction: East	
Survey Date: 7/10/2024	
Comments: K'alo Stantec personnel sampling groundwater from MW6	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number:40 **Photo Location:** Camlaren **Direction:** South **Survey Date:** 7/10/2024 **Comments:** View of a dry SNP 2016-8b	
Photo Number: 41 **Photo Location:** Camlaren **Direction:** East **Survey Date:** 7/10/2024 **Comments:** View of a dry SNP 2016-8a	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 42 **Photo Location:** Camlaren **Direction:** Northwest **Survey Date:** 7/10/2024 **Comments:** View from the shore of SNP 2016-11b1	
Photo Number: 43 **Photo Location:** Camlaren **Direction:** East **Survey Date:** 7/10/2024 **Comments:** View from the shore of SNP 2016-11b2	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 44 **Photo Location:** Camlaren **Direction:** North **Survey Date:** 7/10/2024 **Comments:** View from the shore of SNP 2016-11b3	
Photo Number: 45 **Photo Location:** Camlaren **Direction:** West **Survey Date:** 7/10/2024 **Comments:** View from the shore of SNP 2016-11b4	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 46 **Photo Location:** Zenith Island **Direction:** South **Survey Date:** 7/11/2024 **Comments:** Aerial view of Zenith Island	
Photo Number: 47 **Photo Location:** Zenith Island **Direction:** Northeast **Survey Date:** 8/22/2024 **Comments:** View of backfill material at CAM-SO-23. No revegetation	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Camlaren and Zenith Island**

Photo Number: 48 **Photo Location:** Zenith Island **Direction:** West **Survey Date:** 8/22/2024 **Comments:** View of backfill material at CAM-SO-23. Minimal revegetation	
Photo Number: 49 **Photo Location:** Zenith Island **Direction:** South **Survey Date:** 8/22/2024 **Comments:** View from the shore of SNP 2016-11c	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Kidney Pond**

Photo Number:50 **Photo Location:** Kidney Pond **Direction:** Northeast **Survey Date:** 7/11/2024 **Comments:** Aerial view of Kidney Pond	
Photo Number: 51 **Photo Location:** Kidney Pond **Direction:** Northwest **Survey Date:** 8/22/2024 **Comments:** View of the backfilled portal. Some rills observed	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Kidney Pond**

Photo Number: 52 **Photo Location:** Kidney Pond **Direction:** Northeast **Survey Date:** 8/22/2024 **Comments:** View of the backfilled portal with some settling observed. KID-SO-07 is observed at the base of the backfilled material, no revegetation	
Photo Number: 53 **Photo Location:** Kidney Pond **Direction:** Northeast **Survey Date:** 9/11/2024 **Comments:** Evidence of water flow on KID-WR-01	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Kidney Pond**

Photo Number: 54 **Photo Location:** Kidney Pond **Direction:** Northeast **Survey Date:** 9/11/2024 **Comments:** Rust-coloured staining observed on KID-WR-01	
Photo Number: 55 **Photo Location:** Kidney Pond **Direction:** East **Survey Date:** 9/11/2024 **Comments:** View of KID-WR-03	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Kidney Pond**

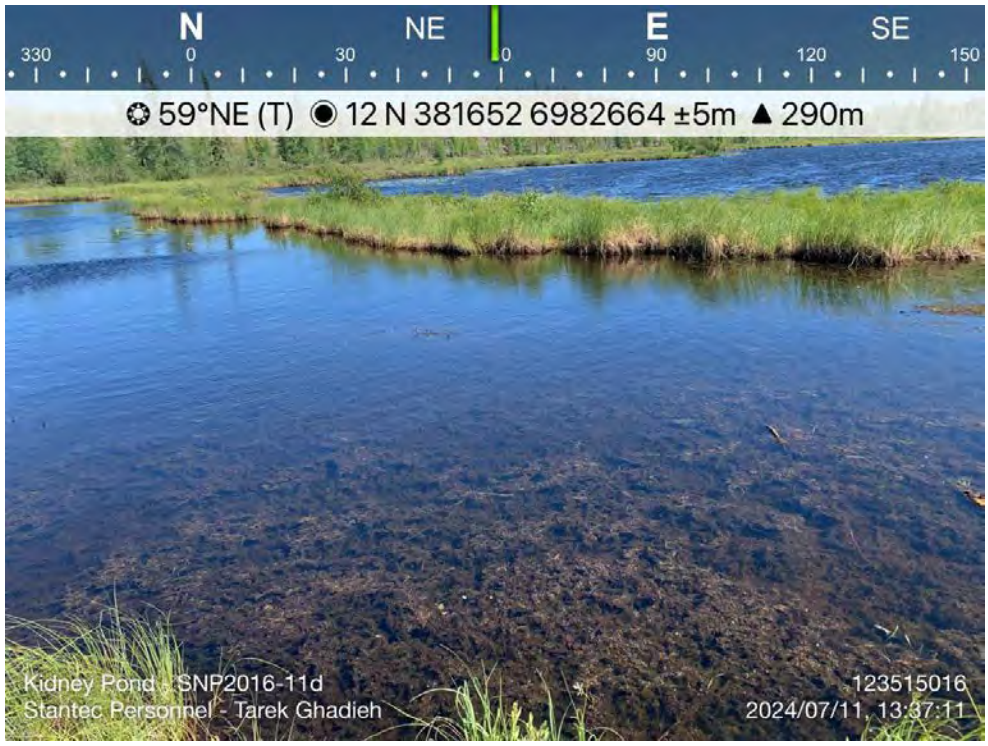
Photo Number:
56

Photo Location:
Kidney Pond

Direction:
Northeast

Survey Date:
7/11/2024

Comments:
View from the shore of SNP 2016-11d



Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Treacy**

Photo number: 57 **Photo Location:** Treacy **Direction:** Northwest **Survey Date:** 9/11/2024 **Comments:** Aerial view of Treacy	
Photo number: 58 **Photo Location:** Treacy **Direction:** Northwest **Survey Date:** 9/11/2024 **Comments:** View of backfilled east trench facing uphill	

Client:	**Public Services and Procurement Canada**	**Project:**	**1Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Treacy**

Photo number: 59 **Photo Location:** Treacy **Direction:** Northwest **Survey Date:** 9/11/2024 **Comments:** View of backfilled area TRE-SO-01, some grassy revegetation	
Photo number: 60 **Photo Location:** Treacy **Direction:** West **Survey Date:** 9/11/2024 **Comments:** View of backfilled area TRE-SO-01, healthy revegetation observed	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Treacy**

Photo number: 61 **Photo Location:** Treacy **Direction:** Northwest **Survey Date:** 9/11/2024 **Comments:** View of backfilled area west trench, sparse revegetation	
Photo number: 62 **Photo Location:** Treacy **Direction:** Southwest **Survey Date:** 8/22/2024 **Comments:** View of backfilled area west trench, sparse revegetation	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Treacy**

Photo number:
63

Photo Location:
Treacy

Direction:
Southeast

Survey Date:
8/22/2024

Comments:
View from shore at SNP 2016-11e

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**West Bay**

Photo Number: 64 **Photo Location:** West Bay **Direction:** West **Survey Date:** 9/11/2024 **Comments:** Aerial view of WES-WR-01	
Photo Number: 65 **Photo Location:** West Bay **Direction:** West **Survey Date:** 6/13/2024 **Comments:** Aerial view of WES-WR-02	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**West Bay**

Photo Number: 66 **Photo Location:** West Bay **Direction:** South **Survey Date:** 6/13/2024 **Comments:** Aerial view of open pit	
Photo Number: 67 **Photo Location:** West Bay **Direction:** East **Survey Date:** 9/11/2024 **Comments:** View of large gaps under fence surrounding open pit	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**West Bay**

Photo Number: 68 **Photo Location:** West Bay **Direction:** Northwest **Survey Date:** 9/11/2024 **Comments:** View of damaged fence surrounding open pit	
Photo Number: 69 **Photo Location:** West Bay **Direction:** North **Survey Date:** 9/11/2024 **Comments:** View from the shore of SNP 2016-11f	

Client:	**Public Services and Procurement Canada**	**Project:**	**Long-Term Monitoring Report – Year 6**
Site Name:	**Gordon Lake Group of Sites**	**Site Location:**	**Kidney Pond**

	
Photo Number: 70	
Photo Location: Kidney Pond	
Direction: n/a	
Survey Date: 6/13/2024	
Comments: Aerial view of rust-coloured staining at KID_WR_01	

Appendix D Inspection Forms

Visual Monitoring and Inspection Form				
Project Details				
Date	14-Jun-24		Time	13:10
Weather	Sunny, calm, 15°C			
Rainfall in the last 24 hours	No		Inspected by	MC, NN
Burnt Island				
LTM Station	Portal	Tailings	Mine Shaft	BUR_WR_01
GPS Coordinates (12V)	390770E 6994470N	390463E 6994482N	390630E 6994509N	390800E 6994450N
Condition of Backfilled Excavation (circle one)	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	GOOD / POOR
If POOR - Why?				
Evidence of Environmental Concern	**YES** / NO	**YES** / NO	YES / **NO**	YES / **NO**
If YES - outline concern (e.g. erosion, rutting, settlement, cracking, slumping, ponding, drainage paths, signs of contamination)	Deep pockets noted at top of backfilled area. Estimated > 0.3m deep x 1.5 m wide.	Small rills observed through the area. An animal burrow was observed (10 cm across and about 10 cm deep).	Small depression observed southwest of the shaft.	No staining noted downagradient of, or on wasterock pile and no evidence of seepage.
Vegetation re-establishment and percentage cover	Some revegetation on periferies of the area.	Some revegetation on periferies of the area.	Some vegetation regrowth.	Minimsl revegetation.
Follow-up Monitoring Required? (circle one)	YES / NO	YES / NO	YES / NO	YES / NO
If YES, provide details on what follow up is required.	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed
Phase I LTM frequency	Quadrennially	Biennially	Quadrennially	Quadrennially
Photo reference number	3, 4	6, 7, 8, 9	5	10

Visual Monitoring and Inspection Form				
Project Details				
Date	11-Sep-24		Time	14:00
Weather	Sunny, calm, 10°C			
Rainfall in the last 24 hours	No		Inspected by	JM, MC
Burnt Island				
LTM Station	Portal	Tailings	Mine Shaft	BUR_WR_01
GPS Coordinates (12V)	390770E 6994470N	390463E 6994482N	390630E 6994509N	390800E 6994450N
Condition of Backfilled Excavation (circle one)	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	GOOD / POOR
If POOR - Why?				
Evidence of Environmental Concern	**YES** / NO	**YES** / NO	YES / **NO**	YES / **NO**
If YES - outline concern (e.g. erosion, rutting, settlement, cracking, slumping, ponding, drainage paths, signs of contamination)	Deep pockets noted at top of backfilled area. Estimated > 0.3m deep x 1.5 m wide.	Small rills observed through the area. An animal burrow was observed (10 cm across and about 10 cm deep).	Small depression observed southwest of the shaft.	No staining noted downagradient of, or on wasterock pile and no evidence of seepage.
Vegetation re-establishment and percentage cover	Some revegetation on periferies of the area.	Some revegetation on periferies of the area.	Some vegetation regrowth.	Minimsl revegetation.
Follow-up Monitoring Required? (circle one)	YES / NO	YES / NO	YES / NO	YES / NO
If YES, provide details on what follow up is required.	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed
Phase I LTM frequency	Quadrennially	Biennially	Quadrennially	Quadrennially
Photo reference number	3, 4	6, 7, 8, 9	5	10

Visual Monitoring and Inspection Form

Project Details

Date	14-Jun-24	Time	10:30
Weather	Sunny, calm, 15°C		
Rainfall in the last 24 hours	No	Inspected by:	MC, NN

Camlaren and Zenith Island

LTM Station	CAM_SO_01	CAM_SO_03	CAM_SO_04	CAM_SO_05	CAM_SO_06	CAM_SO_07	CAM_SO_08	CAM_SO_12	CAM_SO_14	CAM_SO_20	CAM_SO_23
GPS Coordinates (12V)	388185E 6986102N	388203E 6986005N	388261E 6986000N	388249E 6986016N	388223E 6985983N	388248E 6985964N	388226E 6985952N	388300E 6985893N	388219E 6986167N	388361E 6986134N	386774E 6985512N
Condition of Backfilled Excavation (circle one)	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR
If POOR - Why?											
Evidence of Environmental Concern	YES / **NO**	YES / **NO**	**YES** / NO	**YES** / NO	**YES** / NO	YES / **NO**	YES / **NO**	YES / **NO**	YES / **NO**	YES / **NO**	YES / NO
If YES - outline concern (e.g. erosion, rutting, settlement, cracking, slumping, ponding, drainage paths, signs of contamination)	No signs of overland flow or erosion on backfilled area. Evidence of animal burrowing	No signs of overland flow or erosion on backfilled area.	Signs of overland flow, about 30 cm wide. Some animal burrowing.	No signs of overland flow or erosion on backfilled area. Evidence of staining	Evidence of overland flow, about 1 m wide, and errosion. Some animal burrowing.	No signs of overland flow or erosion on backfilled area.	No signs of overland flow or erosion on backfilled area.	No signs of overland flow or erosion on backfilled area.	No signs of overland flow or erosion on backfilled area.	Drainage to the north into Gordon Lake	No signs of overland flow or erosion on backfilled area.
Vegetation re-establishment and percentage cover	Good revegetation of alder and grasses observed. Approximately 60%.	Approximately 20% revegetation. Observed willows, fireweed and grasses.	Sparse revegetation on central backfilled area. Some saplings	Sparse revegetation on central backfilled area. Some saplings	Sparse revegetation on central backfilled area. Some saplings	Sparse revegetation on central backfilled area. Some saplings	Sparse revegetation on central backfilled area. Some saplings	Sparse revegetation observed.	Some revegetation observed	90% revegetation. Grasses.	Minimal revegetation observed.
Follow-up Monitoring Required? (circle one)	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO
If YES, provide details on what follow up is required.	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed
Phase I LTM frequency	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially
Photo reference number	18	15	16	19	20	17	21	24	23	22	47, 48

Kalo-Stantec

Project Details			
Date	14-Jun-24	Time	10:30
Weather	Sunny, calm, 10°C		
Rainfall in the last 24 hours	No	Inspected by:	MC, NN

Camlaren and Zenith Island

LTM Station	CAM_SO_01	CAM_SO_03	CAM_SO_04	CAM_SO_05	CAM_SO_06	CAM_SO_07	CAM_SO_08	CAM_SO_12	CAM_SO_14	CAM_SO_20	CAM_SO_23
GPS Coordinates (12V)	388185E 6986102N	388203E 6986005N	388261E 6986000N	388249E 6986016N	388223E 6985983N	388248E 6985964N	388226E 6985952N	388300E 6985893N	388219E 6986167N	388361E 6986134N	386774E 6985512N
Condition of Backfilled Excavation (circle one)	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR
If POOR - Why?											
Evidence of Environmental Concern	YES / **NO**	YES / **NO**	**YES** / NO	**YES** / NO	**YES** / NO	YES / **NO**	YES / **NO**	YES / **NO**	YES / **NO**	YES / **NO**	YES / NO
If YES - outline concern (e.g. erosion, rutting, settlement, cracking, slumping, ponding, drainage paths, signs of contamination)	No signs of overland flow or erosion on backfilled area. Evidence of animal burrowing	No signs of overland flow or erosion on backfilled area.	Signs of overland flow, about 30 cm wide. Some animal burrowing.	No signs of overland flow or erosion on backfilled area. Evidence of staining	Evidence of overland flow, about 1 m wide, and errosion. Some animal burrowing.	No signs of overland flow or erosion on backfilled area.	No signs of overland flow or erosion on backfilled area.	No signs of overland flow or erosion on backfilled area.	No signs of overland flow or erosion on backfilled area.	Drainage to the north into Gordon Lake	No signs of overland flow or erosion on backfilled area.
Vegetation re-establishment and percentage cover	Good revegetation of alder and grasses observed. Approximately 60%.	Approximately 20% revegetation. Observed willows, fireweed and grasses.	Sparse revegetation on central backfilled area. Some saplings	Sparse revegetation on central backfilled area. Some saplings	Sparse revegetation on central backfilled area. Some saplings	Sparse revegetation on central backfilled area. Some saplings	Sparse revegetation on central backfilled area. Some saplings	Sparse revegetation observed.	Some revegetation observed	90% revegetation. Grasses.	Minimal revegetation observed.
Follow-up Monitoring Required? (circle one)	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO
If YES, provide details on what follow up is required.	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed
Phase I LTM frequency	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially	Biennially
Photo reference number	18	15	16	19	20	17	21	24	23	22	47, 48

Visual Monitoring and Inspection Form

Project Details

Date	11-Sep-24	Time	10:40
Weather	Sunny, calm, 10°C		
Rainfall in the last 24 hours	No	Inspected by	JM, MC

Kidney Pond

LTM Station	KID_WR_01	KID_WR_03	KID_WR_04	KID_SO_07	KID_SO_10	KID_SO_11	Portal
GPS Coordinates (12V)	381522E 6982725N	381562E 6982701N		381539E 6982787N			381487E 6982744N
Condition of Backfilled Excavation (circle one)	**GOOD** / POOR	**GOOD** / POOR	GOOD / POOR	**GOOD** / POOR	GOOD / POOR	GOOD / POOR	**GOOD** / POOR
If POOR - Why?							
Evidence of Environmental Concern	YES / **NO**	YES / NO	YES / NO	YES / **NO**	YES / NO	YES / NO	**YES** / NO
If YES - outline concern (e.g. erosion, rutting, settlement, cracking, slumping, ponding, drainage paths, signs of contamination)	Evidnce of overland water flow and staining observed	No issues observed	Not located during program	Evidnce of overland water flow observed	Not located during program	Not located during program	Evidnce of overland water flow and settling observed
Vegetation re-establishment and percentage cover	Minimal vegetation observed	Minimal vegetation observed	Not located during program	Minimal vegetation observed	Not located during program	Not located during program	Minimal vegetation observed
Follow-up Monitoring Required? (circle one)	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO
If YES, provide details on what follow up is required.	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed
Phase I LTM frequency	Biennially	Quadrennially	Quadrennially	Biennially	Biennially	Biennially	Quadrennially
Photo reference number	53, 54	55		52			51

Visual Monitoring and Inspection Form				
Project Details				
Date	11-Sep-24		Time	13:10
Weather	Sunny, calm, 10°C			
Rainfall in the last 24 hours	No		Inspected by	JN, MC
Treacy				
LTM Station	TRE_SO_01	TRE_SO_02	East Trench	West Trench
GPS Coordinates (12V)	381398E 6981183N	381398E 6981185N	381397E 6981166N	381370E 6981168N
Condition of Backfilled Excavation (circle one)	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR	**GOOD** / POOR
If POOR - Why?				
Evidence of Environmental Concern	YES / **NO**	YES / **NO**	YES / **NO**	YES / **NO**
If YES - outline concern (e.g. erosion, rutting, settlement, cracking, slumping, ponding, drainage paths, signs of contamination)	No evidence of overland flow or errosion observed	No evidence of overland flow or errosion observed	No evidence of overland flow or errosion observed	No evidence of overland flow or errosion observed
Vegetation re-establishment and percentage cover	Some scattered grasses and low vegetation, ~5%	Revegetation of alders and low shrubs, ~50%	Some scattered grasses and low shrubs, ~10%	None observed
Follow-up Monitoring Required? (circle one)	YES / NO	YES / NO	YES / NO	YES / NO
If YES, provide details on what follow up is required.	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed
Phase I LTM frequency	Biennially	Biennially	Quadrennially	Quadrennially
Photo reference number	59, 60		58	61, 62

Visual Monitoring and Inspection Form			
Project Details			
Date	11-Sep-24	Time	13:10
Weather	Sunny, calm, 10°C		
Rainfall in the last 24 hours	No	Inspected by	MC, NN
West Bay			
LTM Station	Open Pit	WES_WR_01	WES_WR_02
GPS Coordinates (12V)	386669E 6978300N		
Condition of Backfilled Excavation (circle one)	GOOD / POOR	**GOOD** / POOR	**GOOD** / POOR
If POOR - Why?			
Evidence of Environmental Concern	**YES** / NO	YES / **NO**	YES / **NO**
If YES - outline concern (e.g. erosion, rutting, settlement, cracking, slumping, ponding, drainage paths, signs of contamination)	Fencing surrounding the open pit is falling over in spots, and large gaps under the fence were observed in several areas	No errosion or staining issues observed	Topographic low idnetified with fine grained material.
Vegetation re-establishment and percentage cover	No revegetation observed	No revegetation observed	No revegetation observed
Follow-up Monitoring Required? (circle one)	YES / NO	YES / NO	YES / NO
If YES, provide details on what follow up is required.	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed	Unknown, Phase II of LTM is needed
Phase I LTM frequency	Quadrennially	Quadrennially	Quadrennially
Photo reference number	66	64	65

Appendix E Daily Reports

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	June 12, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	07:00-19:00
Weather:	13°C, Mainly Sunny	**Report by:**	Natalie Normandeau

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	None.
Ek'edia	1	1	
Stantec	2	0	

Personnel:

Name	Position
Natalie Normandeau	K'alo-Stantec Field Lead
Magda Celejewski	K'alo-Stantec Field Crew
Peter Crookedhand	Ek'edia Wildlife Monitor
Rudi Toteaver	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on June 11, 2024. Great Slave Helicopters advised that two helicopters would be in the Gordon Lake area on June 12, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:30 and arrived at Camlaren at 09:15.
Helicopter departed Camlaren at 16:20 and arrived at Yellowknife Acasta at 17:00.

Health, Safety, Security, and Environment:

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Completed tailgate safety meeting including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Camlaren.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities

Completed Day 1 of 3 of the field program. Planned scope of work for the day included groundwater monitoring and sampling of two wells inside the TSCA perimeter and four wells outside the TSCA perimeter.

Site Activities

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[June 12, 2024] None.	To be completed during subsequent field progam event site visit.
	Surface Water Monitoring and Sampling	[June 12, 2024] None.	To be completed during subsequent field progam event site visit.
Camlaren (TSCA)	TSCA Visual Assessment and Instrumentation Monitoring	[June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Data to be downloaded from VB1, VB2, VB3, VT1, and VT2 during subsequent site visit.
	SNP Groundwater Monitoring and Sampling	[June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Attempt to remove the bailer from MW5 during a subsequent field program event site visit. If the removal is successful, complete groundwater monitoring and sampling at MW5.
	Surface Water Monitoring and Sampling	[June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore no samples were collected.	Surface water sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4 to be completed during subsequent field program event site visit.
Camlaren (Zenith Island)	Visual Assessment	[June 12, 2024] None.	To be completed during subsequent field progam event site visit.
	Surface Water Monitoring and Sampling	[June 12, 2024] None.	To be completed during subsequent field progam event site visit.
Kidney Pond	Visual Assessment	[June 12, 2024] None.	To be completed during subsequent field progam event site visit.
	Surface Water Monitoring and Sampling	[June 12, 2024] None.	To be completed during subsequent field progam event site visit.
Treacy	Visual Assessment	[June 12, 2024] None.	To be completed during subsequent field progam event site visit.
	Surface Water Monitoring and Sampling	[June 12, 2024] None.	To be completed during subsequent field progam event site visit.

Site Activities			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
West Bay	Surface Water Monitoring and Sampling	[June 12, 2024] None.	To be completed during subsequent field progam event site visit.

Sampling Completed:	
Burnt Island	[June 12, 2024] None.
Camlaren (TSCA)	[June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006
Camlaren (Zenith Island)	[June 12, 2024] None.
Kidney Pond	[June 12, 2024] None.
Treacy	[June 12, 2024] None.
West Bay	[June 12, 2024] None.
Quality Control	[June 12, 2024] GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank), GLG-2024-00001-020 (groundwater BFD)
Samples Not Collected	[June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008

Regulatory Concerns

None.

Daily Photo Record

Photo 1

Vibrating wire thermistor VT2 datalogger .

Photo 2

Magda Celejewski setting up groundwater monitoring and sampling equipment at well MW6 (SNP2016-8d).

Daily Photo Record

Photo 3

Natalie Normandeau collecting a groundwater sample and BFD at MW6 (SNP2016-7d).

Photo 4

Aggressive Arctic terns flying over the Camlaren TSCA.

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	June 13, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	07:00-19:00
Weather:	18°C, Mainly Sunny	**Report by:**	Natalie Normandeau

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	None.
Ek'edia	1	1	
Stantec	2	0	

Personnel:

Name	Position
Natalie Normandeau	K'alo-Stantec Field Lead
Magda Celejewski	K'alo-Stantec Field Crew
Peter Crookedhand	Ek'edia Wildlife Monitor
Andrew Ridsdale	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on June 11, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:45 and arrived at Kidney Pond at 09:20.
Helicopter departed Kidney Pond at 10:30 and arrived at Treacy at10:40.
Helicopter departed Treacy at 11:15 and arrived a Burnt Island at 11:30.
Helicopter departed Burnt Island at 12:10 and arrived at Zenith Island at 12:25.
Helicopter departed Zenith Island at 12:55 and arrived at West Bay at 13:10.
Helicopter departed West Bay at 13:55 and arrived at Yellowknife Acasta at 14:30.

Health, Safety, Security, and Environment:

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Completed tailgate safety meeting including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Kidney Pond.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities

Completed Day 2 of 3 of the field program. Planned scope of work for the day included surface water monitoring and sampling at Burnt Island, Kidney Pond, Treacy, West Bay, and Zenith Island; and visual monitoring for erosion and vegetative health at Kidney Pond, Treacy, West Bay, and Zenith Island.

Site Activities

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed. [June 12, 2024] None.	Scope complete.
	Surface Water Monitoring and Sampling	[June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [June 12, 2024] None.	Scope complete.
Camlaren (TSCA)	TSCA Visual Assessment and Instrumentation Monitoring	[June 13, 2024] None. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Data to be downloaded from VB1, VB2, VB3, VT1, and VT2 during subsequent field program site visit.
	SNP Groundwater Monitoring and Sampling	[June 13, 2024] None. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Attempt to remove the bailer from MW5 during a subsequent field program event site visit. If the removal is successful, complete groundwater monitoring and sampling at MW5.
	Surface Water Monitoring and Sampling	[June 13, 2024] None. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b, therefore no samples were collected.	Surface water sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4 to be completed during subsequent field program event site visit.
Camlaren (Zenith Island)	Visual Assessment	[June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed. [June 12, 2024] None.	Scope complete.
	Surface Water Monitoring and Sampling	[June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [June 12, 2024] None.	Scope complete.

Site Activities

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Kidney Pond	Visual Assessment	[June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed. [June 12, 2024] None.	Scope complete.
	Surface Water Monitoring and Sampling	[June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [June 12, 2024] None.	Scope complete.
Treacy	Visual Assessment	[June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed. [June 12, 2024] None.	Scope complete.
	Surface Water Monitoring and Sampling	[June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [June 12, 2024] None.	Scope complete.
West Bay	Visual Assessment	[June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed. [June 12, 2024] None.	Scope complete.
	Surface Water Monitoring and Sampling	[June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [June 12, 2024] None.	Scope complete.

Sampling Completed:

Burnt Island	[June 13, 2024] GLG-2024-00001-009 [June 12, 2024] None.
Camlaren (TSCA)	[June 13, 2024] None. [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006
Camlaren (Zenith Island)	[June 13, 2024] GLG-2024-00001-014 [June 12, 2024] None.
Kidney Pond	[June 13, 2024] GLG-2024-00001-015 [June 12, 2024] None.
Treacy	[June 13, 2024] GLG-2024-00001-016 [June 12, 2024] None.
West Bay	[June 13, 2024] GLG-2024-00001-017 [June 12, 2024] None.
Quality Control	[June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank), GLG-2024-00001-020 (groundwater BFD)
Samples Not Collected	[June 13, 2024] None. [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008

Regulatory Concerns

None.

Daily Photo Record

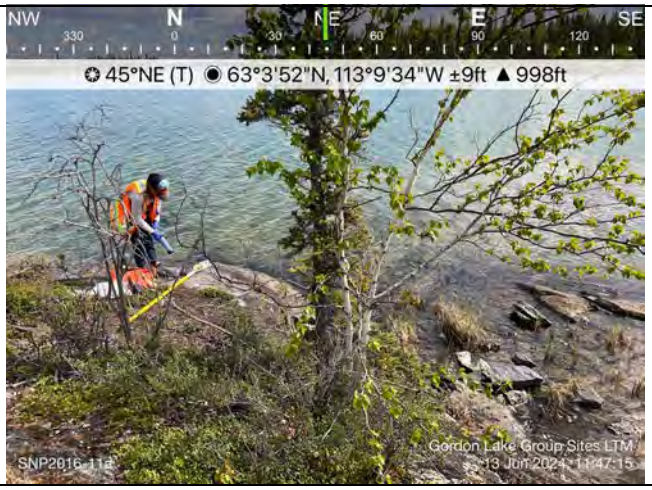


Photo 1

Magda Celejewski preparing to collect in-situ measurements of surface water quality parameters at SNP201611a (Burnt Island).

Daily Photo Record

Photo 2

Magda Celejewski collecting in-situ measurements of surface water quality parameters at SNP201611e (Zenith Island).

Photo 3

Measuring small depressions in backfill material at KID_SO_07, using pencil for size reference.

Photo 4

Peter Crookedhand and Magda Celejewski, pictured walking toward SNP2016-11a at Burnt Island.

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	June 14, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	06:45-18:45
Weather:	17°C, Mainly Sunny	**Report by:**	Natalie Normandeau

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	None.
Ek'edia	1	1	
Stantec	2	0	

Personnel:

Name	Position
Natalie Normandeau	K'alo-Stantec Field Lead
Magda Celejewski	K'alo-Stantec Field Crew
Peter Crookedhand	Ek'edia Wildlife Monitor
Andrew Ridsdale	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on June 11, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:30 and arrived at Camlaren at 09:35.
Helicopter departed Camlaren at 12:55 and arrived at Burnt Island at 13:15.
Helicopter departed Burnt Island at 14:20 and arrived a Yellowknife Acasta at 14:55.

Health, Safety, Security, and Environment:

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Completed tailgate safety meeting including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Camlaren.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities

Completed Day 3 of 3 of the field program. Planned scope of work for the day included surface water monitoring and sampling at Camlaren, visual assessment of the TSCA, and TSCA instrumentation monitoring. Visual assessments of additional areas identified in the LTMP was also completed.

Site Activities

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[June 14, 2024] Completed visual assessment of the Waste Rock Area, Tailings Impoundment Area, and Shaft. No new concerns observed. [June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed. [June 12, 2024] None.	Scope complete.
	Surface Water Monitoring and Sampling	[June 14, 2024] None. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [June 12, 2024] None.	Scope complete.
Camlaren (TSCA)	TSCA Visual Assessment and Instrumentation Monitoring	[June 14, 2024] Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be estbalished. Reviewed DTLogger PC Manual and determined that DT2055 and DT2040 Controller Driver Sets need to be installed on the Field Lead's laptop. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Several Arctic Tern were nesting on the TSCA surface; therefore, the TSCA surface was not visually assessed on foot. No new concerns observed. Completed visual assessment of CAM_SO_01, CAM_SO_03, CAM_SO_04, CAM_SO_05, CAM_SO_06, CAM_SO_07, CAM_SO_08, CAM_SO_09, CAM_SO_11, CAM_SO_14, CAM_SO_12, CAM_SO_18, and CAM_SO_19. No new concerns observed. [June 13, 2024] None. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Install Control Driver Sets on Field Lead's laptop and download data from VB1, VB2, VB3, VT1, and VT2 during subsequent field program event.

Site Activities			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA) continued	SNP Groundwater Monitoring and Sampling	[June 14, 2024] Retrieved and disposed of the bailer lodged in MW5 (SNP2016-7c) and completed groundwater monitoring and sampling. Insufficient water available for full sample collection; partial sample collected. [June 13, 2024] None. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Scope complete.
	Surface Water Monitoring and Sampling	[June 14, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. [June 13, 2024] None. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore no samples were collected.	Scope complete.
Camlaren (Zenith Island)	Visual Assessment	[June 14, 2024] None. [June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed. [June 12, 2024] None.	Scope complete.
	Surface Water Monitoring and Sampling	[June 14, 2024] None. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [June 12, 2024] None.	Scope complete.
Kidney Pond	Visual Assessment	[June 14, 2024] None. [June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed. [June 12, 2024] None.	Scope complete.
	Surface Water Monitoring and Sampling	[June 14, 2024] None. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [June 12, 2024] None.	Scope complete.
Treacy	Visual Assessment	[June 14, 2024] None. [June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed. [June 12, 2024] None.	Scope complete.
	Surface Water Monitoring and Sampling	[June 14, 2024] None. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [June 12, 2024] None.	Scope complete.
West Bay	Visual Assessment	[June 14, 2024] None. [June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed. [June 12, 2024] None.	Scope complete.
	Surface Water Monitoring and Sampling	[June 14, 2024] None. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [June 12, 2024] None.	Scope complete.

Sampling Completed:	
Burnt Island	[June 14, 2024] None. [June 13, 2024] GLG-2024-00001-009 [June 12, 2024] None.
Camlaren (TSCA)	[June 14, 2024] GLG-2024-00001-005 (partial), GLG-2024-00001-010, GLG-2024-00001-011, GLG-2024-00001-012, GLG-2024-00001-013 [June 13, 2024] None. [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006
Camlaren (Zenith Island)	[June 14, 2024] None. [June 13, 2024] GLG-2024-00001-014 [June 12, 2024] None.
Kidney Pond	[June 14, 2024] None. [June 13, 2024] GLG-2024-00001-015 [June 12, 2024] None.
Treacy	[June 14, 2024] None. [June 13, 2024] GLG-2024-00001-016 [June 12, 2024] None.
West Bay	[June 14, 2024] None. [June 13, 2024] GLG-2024-00001-017 [June 12, 2024] None.
Quality Control	[June 14, 2024] None. [June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank), GLG-2024-00001-020 (groundwater BFD)
Samples Not Collected	[June 14, 2024] None. [June 13, 2024] None. [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008

Regulatory Concerns
None.

Daily Photo Record

Photo 1

Natalie Normandeau rinsing the swing sampler prior to surface water sample collection at SNP2016-11b1 (Camlaren).

Photo 2

Magda Celejewski setting up equipment for groundwater monitoring and sampling at MW5 (SNP2016-7c).

Photo 3

Bailer retrieved from MW5 (SNP2016-7c).

Daily Photo Record

Photo 4

Laptop screen showing no communication between the VB1 datalogger and DT Logger Host software.

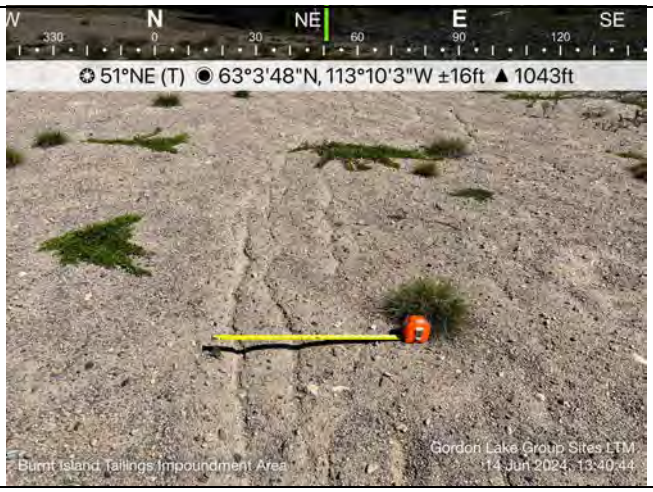


Photo 5

Measuring erosion in cover material at the Burnt Island Tailings Impoundment Area.

Photo 6

Arctic Tern attacking helicopter rotor blade at Camlaren.

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	July 10, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	07:00-19:00
Weather:	Sunny, breezy, 20°C	**Report by:**	Magda Celejewski

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	None.
Ek'edia	1	1	
Stantec	2	0	

Personnel:

Name	Position
Tarek Ghadieh	K'alo-Stantec Field Lead
Magda Celejewski	K'alo-Stantec Field Crew
Peter Crookedhand	Ek'edia Wildlife Monitor
Luke Spence	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on July 8, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:30 and arrived at Camlaren at 09:20.
Helicopter departed Camlaren at 15:35 and arrived at Yellowknife Acasta at 16:15

Health, Safety, Security, and Environment:

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Completed tailgate safety meeting including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Camlaren.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities

Completed Day 1 of 3 of the field program. Planned scope of work for the day included groundwater monitoring and sampling at Camlaren and TSCA instrumentation monitoring and data downloads. TSCA instrumentation data downloads were not completed.

Site Activities

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[June 14, 2024] Completed visual assessment of the Waste Rock Area, Tailings Impoundment Area, and Shaft. No new concerns observed. [June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a.	To be completed during subsequent field progam event site visit.
Camlaren (TSCA)	TSCA Visual Assessment and Instrumentation Monitoring	[July 10, 2024] Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be established. Datalogger battery issue suspected. [June 14, 2024] Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be estbalished. Reviewed DTLogger PC Manual and determined that DT2055 and DT2040 Controller Driver Sets need to be installed on the Field Lead's laptop. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Several Arctic Tern were nesting on the TSCA surface; therefore, the TSCA surface was not visually assessed on foot. No new concerns observed. Completed visual assessment of CAM_SO_01, CAM_SO_03, CAM_SO_04, CAM_SO_05, CAM_SO_06, CAM_SO_07, CAM_SO_08, CAM_SO_09, CAM_SO_11, CAM_SO_14, CAM_SO_12, CAM_SO_18, and CAM_SO_19. No new concerns observed. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Datalogger batteries to be ordered and replaced during subsequent field program event.

Site Activities			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA) continued	SNP Groundwater Monitoring and Sampling	[July 10, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d), MW2, and MW1. Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection. Repaired fallen SNP station identification sign at MW6 (SNP2016-7d). [June 14, 2024] Retrieved and disposed of the bailer lodged in MW5 (SNP2016-7c) and completed groundwater monitoring and sampling. Insufficient water available for full sample collection; partial sample collected. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Groundwater sample to be collected from MW5 (SNP 2016-7c) during subsequent field program event site visit if sufficient recharge is observed.
	Surface Water Monitoring and Sampling	[July 10, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [June 14, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected.	Scope complete.
Camlaren (Zenith Island)	Visual Assessment	[June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c.	To be completed during subsequent field progam event site visit.
Kidney Pond	Visual Assessment	[June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d.	To be completed during subsequent field progam event site visit.
Treacy	Visual Assessment	[June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e.	To be completed during subsequent field progam event site visit.
West Bay	Visual Assessment	[June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f.	To be completed during subsequent field progam event site visit.

Sampling Completed:	
Burnt Island	[June 13, 2024] GLG-2024-00001-009
Camlaren (TSCA)	[July 10, 2024] GLG-2024-00002-001, GLG-2024-00002-002, GLG-2024-00002-003, GLG-2024-00002-004, GLG-2024-00002-006, GLG-2024-00002-010, GLG-2024-00002-011, GLG-2024-00002-012, GLG-2024-00002-013, GLG-2024-00002-019 [June 14, 2024] GLG-2024-00001-005 (partial), GLG-2024-00001-010, GLG-2024-00001-011, GLG-2024-00001-012, GLG-2024-00001-013 [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006
Camlaren (Zenith Island)	[June 13, 2024] GLG-2024-00001-014
Kidney Pond	[June 13, 2024] GLG-2024-00001-015
Treacy	[June 13, 2024] GLG-2024-00001-016
West Bay	[June 13, 2024] GLG-2024-00001-017
Quality Control	[June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank), GLG-2024-00001-020 (groundwater BFD)
Samples Not Collected	[July 10, 2024] GLG-2024-00002-007, GLG-2024-00002-008 [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008

Regulatory Concerns
None.

Daily Photo Record

Photo 1

Tarek Ghadieh collected VOC headspace measurements at MW6 (SNP2016-7d), facing east.

Photo 2

Repaired SNP station identification at MW6 (SNP 2016-7d), facing north-northeast.

Photo 3

Tarek Ghadieh completing groundwater monitoring and sampling at at MW3 (SNP2016-7b), facing east.

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	July 11, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	07:00-19:00
Weather:	Sunny, windy, 14°C	**Report by:**	Jolene Moyer

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	None.
Ek'edia	1	1	
Stantec	2	0	

Personnel:

Name	Position
Tarek Ghadieh	K'alo-Stantec Field Lead
Jolene Moyer	K'alo-Stantec Field Crew
Peter Crookedhand	Ek'edia Wildlife Monitor
Luke Spence	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on July 8, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:36 and arrived at Burnt Island at 09:27.
Helicopter departed Burnt Island at 10:19 and arrived at Camlaren at 10:26.
Helicopter departed Camlaren at 12:10 and arrived at Zenith Island at 12:15.
Helicopter departed Zenith Island at 12:45 and arrived at West Bay at 12:52.
Helicopter departed West Bay at 13:19 and arrived at Kidney Pond at 13:25.
Helicopter departed Kidney Pond at 13:56 and arrived at Treacy at 13:59.
Helicopter departed Treacy at 14:24 and arrived at Yellowknife Acasta at 14:55.

Health, Safety, Security, and Environment:

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Completed tailgate safety meeting including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Burnt Island.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[July 11, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a moose was observed at Burnt Island. The moose wandered away from the worksite area upon detecting the helicopter and was not observed again throughout the day.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities:

Completed Day 2 of 3 of the field program. Planned scope of work for the day included surface water monitoring and sampling at Burnt Island, Kidney Pond, Treacy, West Bay, and Zenith Island; groundwater sampling at MW5 (SNP2016-7c) and TSCA instrumentation data downloads at Camlaren. Additional troubleshooting required for TSCA instrumentation.

Site Activities:

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[June 14, 2024] Completed visual assessment of the Waste Rock Area, Tailings Impoundment Area, and Shaft. No new concerns observed. [June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA)	TSCA Visual Assessment and Instrumentation Monitoring	[July 11, 2024] Inspected instrumentation batteries and wired connections. Replacement date of September 4, 2020 observed on batteries. Battery in VT1 found to be disconnected from the terminal. Replaced battery in VT1 with supplmenetal battery taken to site; laptop recognized the connected device; however, the software interface could not establish a connection. [July 10, 2024] Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be established. Datalogger battery issue suspected. [June 14, 2024] Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be estbalished. Reviewed DTLogger PC Manual and determined that DT2055 and DT2040 Controller Driver Sets need to be installed on the Field Lead's laptop. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Several Arctic Tern were nesting on the TSCA surface; therefore, the TSCA surface was not visually assessed on foot. No new concerns observed. Completed visual assessment of CAM_SO_01, CAM_SO_03, CAM_SO_04, CAM_SO_05, CAM_SO_06, CAM_SO_07, CAM_SO_08, CAM_SO_09, CAM_SO_11, CAM_SO_14, CAM_SO_12, CAM_SO_18, and CAM_SO_19. No new concerns observed. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Additional troubleshooting to be completed during subsequent field program event site visit. Batteries to be purchased and replaced during subsequent field program event.
	SNP Groundwater Monitoring and Sampling	[July 11, 2024] Attempted to collect groundwater sample from MW5 (SNP2016-7c). Insufficient recharge was observed; therefore, no sample was collected. [July 10, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d), MW2, and MW1. Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection. Repaired fallen SNP station identification sign at MW6 (SNP2016-7d). [June 14, 2024] Retrieved and disposed of the bailer lodged in MW5 (SNP2016-7c) and completed groundwater monitoring and sampling. Insufficient water available for full sample collection; partial sample collected. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Groundwater sample to be collected from MW5 (SNP 2016-7c) during subsequent field program event site visit if sufficient recharge is observed.
	Surface Water Monitoring and Sampling	[July 10, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [June 14, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore no samples were collected.	Scope complete.
Camlaren (Zenith Island)	Visual Assessment	[June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c.	Scope complete.
Kidney Pond	Visual Assessment	[June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d.	Scope Complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Treacy	Visual Assessment	[June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e.	Scope complete.
West Bay	Visual Assessment	[June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f.	Scope complete.

Sampling Completed:	
Burnt Island	[July 11, 2024] GLG-2024-00002-009 [June 13, 2024] GLG-2024-00001-009
Camlaren (TSCA)	[July 10, 2024] GLG-2024-00002-001, GLG-2024-00002-002, GLG-2024-00002-003, GLG-2024-00002-004, GLG-2024-00002-006, GLG-2024-00002-010, GLG-2024-00002-011, GLG-2024-00002-012, GLG-2024-00002-013, GLG-2024-00002-019 [June 14, 2024] GLG-2024-00001-005 (partial), GLG-2024-00001-010, GLG-2024-00001-011, GLG-2024-00001-012, GLG-2024-00001-013 [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006
Camlaren (Zenith Island)	[July 11, 2024] GLG-2024-00002-014 [June 13, 2024] GLG-2024-00001-014
Kidney Pond	[July 11, 2024] GLG-2024-00002-015 [June 13, 2024] GLG-2024-00001-015
Treacy	[July 11, 2024} GLG-2024-00002-016 [June 13, 2024] GLG-2024-00001-016
West Bay	[July 11, 2024] GLG-2024-00002-017 [June 13, 2024] GLG-2024-00001-017
Quality Control	[July 11, 2024] GLG-2024-00002-020 (surface water BFD), GLG-2024-00002-022 (Trip Blank), GLG-2024-00002-023 (Field Blank) [July 10, 2024] GLG-2024-00001-019 (groundwater BFD) [June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-019 (groundwater BFD), GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank)
Samples Not Collected	[July 10, 2024] GLG-2024-00002-007, GLG-2024-00002-008 [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008

Regulatory Concerns
None.

Daily Photo Record

Photo 1

Tarek Ghadieh collecting surface water sample at Burnt Island (SNP2016-11a).

Photo 2

VT1 at Camlaren opened for inspection and battery replacement. Battery found to not be plugged into the terminal.

Photo 3

Jolene Moyer labeling surface water sample bottles at West Bay (SNP2016-11f).

Daily Photo Record

Photo 4

VB3 at Camlaren opened for inspection and battery check.

Photo 5

Jolene Moyer labeling surface water sample bottles at Kidney Pond (SNP2016-11d).

Photo 6

Jolene Moyer collecting surface water sample at Treacy (SNP2016-11e). Peter Crookedhand in background.

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	July 16, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	07:00-19:00
Weather:	Sunny, 16 to 22°C	**Report by:**	Jolene Moyer

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	None.
Ek'edia	2	2	
K'alo-Stantec	4	0	

Personnel:

Name	Position
Tarek Ghadieh	K'alo-Stantec Field Lead (Crew 1)
Jolene Moyer	K'alo-Stantec Field Crew Member (Crew 1)
Setffen Karl	K'alo-Stantec Field Crew Member (Crew 2)
Steve Bundrock	K'alo-Stantec Field Crew Member (Crew 2)
Peter Crookedhand	Ek'edia Wildlife Monitor (Crew 1)
Keith Sangris	Ek'edia Wildlife Monitor (Crew 2)
Luke Spence	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on July 8, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:22 with Crew 1 and arrived at Camlaren at 08:58.
Helicopter returned to Yellowknife Acasta without passengers.
Helicopter departed Yellowknife Acasta at 10:00 with Cew 2 and arrived at Camlaren at 11:10.
Helicopter departed Camlaren at 11:36 with Crew 1 and arrived at Yellowknife Acasta at 12:14.
Helicopter returned to Camlaren without passengers.
Helicopter departed Camlaren at approximately 13:30 with Crew 2 and arrived at Yellowknife Acasta at 14:20.

Health, Safety, Security, and Environment:

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Crew 1 and Crew 2 completed tailgate safety meetings including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Camlaren.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[July 11, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a moose was observed at Burnt Island. The moose wandered away from the worksite area upon detecting the helicopter and was not observed again throughout the day.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities:

Completed Day 3 of 3 of the field program. Planned scope of work for the day included groundwater sampling at MW5 (SNP2016-7c), TSCA instrumentation data downloads at Camlaren, and DSI of the Camlaren TSCA.

Site Activities:

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[June 14, 2024] Completed visual assessment of the Waste Rock Area, Tailings Impoundment Area, and Shaft. No new concerns observed. [June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA)	TSCA Dam Safety Inspection	[July 16, 2024] Completed Dam Safety Inspection. One surface depression/sinkhole was observed near the north end of the TSCA. This sinkhole had not been identified in the April 5, 2024 AECOM Geotechnical Inspection Report. It was, however, identified in Stantec's previous reports, including our YEAR 2 inspection report. Depression/sinkhole does not appear to have progressed further. Partially healed cracks identified in the AECOM 2024 report appeared to have fully healed as the cracks were not visible now. No other significant concerns were identified	Scope complete.
	TSCA Visual Assessment and Instrumentation Monitoring	[July 16, 2024] Veriffied battery voltage in VT1, VT2, VB1, VB2, and VB3. Communicated with in-office K'alo-Stantec automation specialist over satellite phone to troubleshoot instrumentation. Issues persisted; could not establish communication between dataloggers and desktop software interface. [July 11, 2024] Inspected instrumentation batteries and wired connections. Replacement date of September 4, 2020 observed on batteries. Battery in VT1 found to be disconnected from the terminal. Replaced battery in VT1 with supplmenetal battery taken to site; laptop recognized the connected device; however, the software interface could not establish a connection. [July 10, 2024] Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be established. Datalogger battery issue suspected. [June 14, 2024] Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be estbalished. Reviewed DTLogger PC Manual and determined that DT2055 and DT2040 Controller Driver Sets need to be installed on the Field Lead's laptop. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Several Arctic Tern were nesting on the TSCA surface; therefore, the TSCA surface was not visually assessed on foot. No new concerns observed. Completed visual assessment of CAM_SO_01, CAM_SO_03, CAM_SO_04, CAM_SO_05, CAM_SO_06, CAM_SO_07, CAM_SO_08, CAM_SO_09, CAM_SO_11, CAM_SO_14, CAM_SO_12, CAM_SO_18, and CAM_SO_19. No new concerns observed. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Additional troubleshooting to be completed during subsequent field program event.
	SNP Groundwater Monitoring and Sampling	[July 16, 2024] Collected partial sample from MW5 (SNP2016-7c). Insufficient groundwater recovery or full sample collection. [July 11, 2024] Attempted to collect groundwater sample from MW5 (SNP2016-7c). Insufficient recharge was observed; therefore, no sample was collected. [July 10, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d), MW2, and MW1. Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection. Repaired fallen SNP station identification sign at MW6 (SNP2016-7d). [June 14, 2024] Retrieved and disposed of the bailer lodged in MW5 (SNP2016-7c) and completed groundwater monitoring and sampling. Insufficient water available for full sample collection; partial sample collected. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Scope complete.
	Surface Water Monitoring and Sampling	[July 10, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [June 14, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore no samples were collected.	Scope complete.
Camlaren (Zenith Island)	Visual Assessment	[June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c.	Scope complete.

Kidney Pond	Visual Assessment	[June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d.	Scope Complete.
Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Treacy	Visual Assessment	[June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e.	Scope complete.
West Bay	Visual Assessment	[June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f.	Scope complete.
Sampling Completed:			
Burnt Island	[July 11, 2024] GLG-2024-00002-009 [June 13, 2024] GLG-2024-00001-009		
Camlaren (TSCA)	[July 16, 2024] GLG-2024-00002-005 (partial sample) [July 10, 2024] GLG-2024-00002-001, GLG-2024-00002-002, GLG-2024-00002-003, GLG-2024-00002-004, GLG-2024-00002-006, GLG-2024-00002-010, GLG-2024-00002-011, GLG-2024-00002-012, GLG-2024-00002-013, GLG-2024-00002-019 [June 14, 2024] GLG-2024-00001-005 (partial), GLG-2024-00001-010, GLG-2024-00001-011, GLG-2024-00001-012, GLG-2024-00001-013 [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006		
Camlaren (Zenith Island)	[July 11, 2024] GLG-2024-00002-014 [June 13, 2024] GLG-2024-00001-014		
Kidney Pond	[July 11, 2024] GLG-2024-00002-015 [June 13, 2024] GLG-2024-00001-015		
Treacy	[July 11, 2024} GLG-2024-00002-016 [June 13, 2024] GLG-2024-00001-016		
West Bay	[July 11, 2024] GLG-2024-00002-017 [June 13, 2024] GLG-2024-00001-017		
Quality Control	[July 11, 2024] GLG-2024-00002-020 (surface water BFD), GLG-2024-00002-022 (Trip Blank), GLG-2024-00002-023 (Field Blank) [July 10, 2024] GLG-2024-00001-019 (groundwater BFD) [June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-019 (groundwater BFD), GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank)		
Samples Not Collected	[July 10, 2024] GLG-2024-00002-007, GLG-2024-00002-008 [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008		
Regulatory Concerns			
None.			

Daily Photo Record

Photo 1

Jolene Moyer monitoring recovery of MW5 (SNP2016-7c).

Photo 2

Checking battery voltage at VB1.

Photo 3

Retrieving datalogger from VB2.

Daily Photo Record

Photo 4

VB2 not recognized by desktop software.

Photo 5

Jolene Moyer checking battery voltage at VT2.

Photo 6

Checking battery voltage at VB3.

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	July 20, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	08:00-18:00
Weather:	Cloudy, 18 to 22°C	**Report by:**	Tarek Ghadieh

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	Darryl Bohnet with the North Slave Métis Alliance accompanied K'alo-Stantec as part of the Job Shadow Training Program (Bullmoose-Ruth [BMR])
Ek'edia	1	1	
K'alo-Stantec	2	0	
North Slave Métis Alliance	1	1	

Personnel:

Name	Position
Tarek Ghadieh	K'alo-Stantec Field Lead
Jolene Moyer	K'alo-Stantec Field Crew Member
Darryl Bohnet	North Slave Métis Alliance Job Shadow
Alfred Liske	Ek'edia Wildlife Monitor
Luke Spence	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on July 8, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:29 with half of field crew members and arrived at Bullmoose Airstrip (BMR) at 09:10.
Helicopter returned to Yellowknife Acasta without passengers.
Helicopter departed Yellowknife Acasta at 10:09 with remaining field crew members and arrived at Bullmoose Airstrip (BMR) at 10:50.
Helicopter departed Bullmoose Airstrip (BMR) at 12:37 and arrived at Bullmoose Wetland (BMR) at 12:42.
Helicopter departed Bullmoose Wetland (BMR) at 13:06 and arrived at Ruth Mine (BMR) at 13:18.
Helicopter departed Ruth Mine (BMR) at 13:40 and arrived at Camlaren at 14:07.
Helicopter departed Camlaren without passengers to Dome Lake to refuel and returned to Camlaren (Gordon Lake).
Helicopter departed Camlaren at 15:30 and arrived at Yellowknife Acasta at 16:00.

Health, Safety, Security, and Environment:

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Completed tailgate safety meetings including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Bullmoose Airstrip (BMR).

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[July 11, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a moose was observed at Burnt Island. The moose wandered away from the worksite area upon detecting the helicopter and was not observed again throughout the day.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities:

Completed an opportunitic site visit at Camlaren on day 7 of 8 of the BMR field program event. Planned scope of work included TSCA instrumentation data downloads at Camlaren.

Site Activities:

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[June 14, 2024] Completed visual assessment of the Waste Rock Area, Tailings Impoundment Area, and Shaft. No new concerns observed. [June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA)	TSCA Dam Safety Inspection	[July 16, 2024] Completed Dam Safety Inspection. One surface depression/sinkhole was observed near the north end of the TSCA. This sinkhole had not been identified in the April 5, 2024 AECOM Geotechnical Inspection Report. It was, however, identified in Stantec's previous reports, including our YEAR 2 inspection report. Depression/sinkhole does not appear to have progressed further. Partially healed cracks identified in the AECOM 2024 report appeared to have fully healed as the cracks were not visible now. No other significant concerns were identified.	Scope complete.
	TSCA Visual Assessment and Instrumentation Monitoring	[July 20, 2024] Successfully connected to and downloaded data from VT1, VT2, VB1, VB2, and VB3. Datalogger battery life observed to be at ~90%Internal clocks observed to be 2 to 4 hours behind. Documented damage to instrumentation; VT1 was observed to have been damaged by wildlife, consisten with historical observations. VT1 datalogger status indicated 'Logging' at 12-hour intervals; however, last data were recorded in September 2022. [July 16, 2024] Veriffied battery voltage in VT1, VT2, VB1, VB2, and VB3. Communicated with in-office K'alo-Stantec automation specialist over satellite phone to troubleshoot instrumentation. Issues persisted; could not establish communication between dataloggers and desktop software interface. [July 11, 2024] Inspected instrumentation batteries and wired connections. Replacement date of September 4, 2020 observed on batteries. Battery in VT1 found to be disconnected from the terminal. Replaced battery in VT1 with supplmenetal battery taken to site; laptop recognized the connected device; however, the software interface could not establish a connection. [July 10, 2024] Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be established. Datalogger battery issue suspected. [June 14, 2024] Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be estbalished. Reviewed DTLogger PC Manual and determined that DT2055 and DT2040 Controller Driver Sets need to be installed on the Field Lead's laptop. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Several Arctic Tern were nesting on the TSCA surface; therefore, the TSCA surface was not visually assessed on foot. No new concerns observed. Completed visual assessment of CAM_SO_01, CAM_SO_03, CAM_SO_04, CAM_SO_05, CAM_SO_06, CAM_SO_07, CAM_SO_08, CAM_SO_09, CAM_SO_11, CAM_SO_14, CAM_SO_12, CAM_SO_18, and CAM_SO_19. No new concerns observed. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Automation specialist to inspect VT1 during August field program event.
	SNP Groundwater Monitoring and Sampling	[July 16, 2024] Collected partial sample from MW5 (SNP2016-7c). Insufficient groundwater recovery or full sample collection. [July 11, 2024] Attempted to collect groundwater sample from MW5 (SNP2016-7c). Insufficient recharge was observed; therefore, no sample was collected. [July 10, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d), MW2, and MW1. Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection. Repaired fallen SNP station identification sign at MW6 (SNP2016-7d). [June 14, 2024] Retrieved and disposed of the bailer lodged in MW5 (SNP2016-7c) and completed groundwater monitoring and sampling. Insufficient water available for full sample collection; partial sample collected. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren TSCA	Surface Water Monitoring and Sampling	[July 10, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [June 14, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore no samples were collected.	Scope complete.
Camlaren (Zenith Island)	Visual Assessment	[June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c.	Scope complete.
Kidney Pond	Visual Assessment	[June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d.	Scope Complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Treacy	Visual Assessment	[June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e.	Scope complete.
West Bay	Visual Assessment	[June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f.	Scope complete.

Sampling Completed:	
Burnt Island	[July 11, 2024] GLG-2024-00002-009 [June 13, 2024] GLG-2024-00001-009
Camlaren (TSCA)	[July 16, 2024] GLG-2024-00002-005 (partial) [July 10, 2024] GLG-2024-00002-001, GLG-2024-00002-002, GLG-2024-00002-003, GLG-2024-00002-004, GLG-2024-00002-006, GLG-2024-00002-010, GLG-2024-00002-011, GLG-2024-00002-012, GLG-2024-00002-013, GLG-2024-00002-019 [June 14, 2024] GLG-2024-00001-005 (partial), GLG-2024-00001-010, GLG-2024-00001-011, GLG-2024-00001-012, GLG-2024-00001-013 [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006
Camlaren (Zenith Island)	[July 11, 2024] GLG-2024-00002-014 [June 13, 2024] GLG-2024-00001-014
Kidney Pond	[July 11, 2024] GLG-2024-00002-015 [June 13, 2024] GLG-2024-00001-015
Treacy	[July 11, 2024} GLG-2024-00002-016 [June 13, 2024] GLG-2024-00001-016
West Bay	[July 11, 2024] GLG-2024-00002-017 [June 13, 2024] GLG-2024-00001-017
Quality Control	[July 11, 2024] GLG-2024-00002-020 (surface water BFD), GLG-2024-00002-022 (Trip Blank), GLG-2024-00002-023 (Field Blank) [July 10, 2024] GLG-2024-00001-019 (groundwater BFD) [June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-019 (groundwater BFD), GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank)
Samples Not Collected	[July 10, 2024] GLG-2024-00002-007, GLG-2024-00002-008 [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008

Regulatory Concerns
None.

Daily Photo Record

Photo 1

VB1 logger status

Photo 2

VB2 logger status

Photo 3

VB3 logger status

Daily Photo Record

Photo 4

VT2 logger status

Photo 5

VT1 logger status

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	August 20, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	08:00-18:00
Weather:	Cloudy, 18 to 22°C	**Report by:**	Magda Celejewski

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	Darryl Bohnet with the North Slave Métis Alliance accompanied K'alo-Stantec as part of the Job Shadow Training Program
Ek'edia	1	1	
K'alo-Stantec	2	0	
North Slave Métis Alliance	1	1	

Personnel:

Name	Position
Magda Celejewski	K'alo-Stantec Field Lead
Tarek Ghadieh	K'alo-Stantec Field Crew Member
Darryl Bohnet	North Slave Métis Alliance Job Shadow
Keith Sangris	Ek'edia Wildlife Monitor
Luke Spence	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on August 15, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:28 with first half of field crew and arrived at Camlaren at 09:15.
Helicopter returned to Yellowknife Acasta without passengers.
Helicopter departed Yellowknife Acasta at 10:05 with second half of field crew and arrived at Camlaren at 10:45.
Helicopter departed Camlaren at 14:33 with entire field crew and arrived at Yellowknife Acasta at 15:15.
Helicopter returned to Camlaren without passengers to retrieve equipment and returned to Yellowknife Acasta at 16:55.

Helicopter was too heavy to transport entire field crew and equipment to and from site. Two trips were made to transport field crew from Yellowknife Acasta to Camlaren.

Heli

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Completed tailgate safety meetings including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Camlaren.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[July 11, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a moose was observed at Burnt Island. The moose wandered away from the worksite area upon detecting the helicopter and was not observed again throughout the day.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities:

Completed groundwater sampling, surface water sampling, and data downloads at Camlaren.

Site Activities:

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[June 14, 2024] Completed visual assessment of the Waste Rock Area, Tailings Impoundment Area, and Shaft. No new concerns observed. [June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed.	None.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a.	To be completed during subsequent field program event site visit.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA)	TSCA Dam Safety Inspection	[July 16, 2024] Completed Dam Safety Inspection. One surface depression/sinkhole was observed near the north end of the TSCA. This sinkhole had not been identified in the April 5, 2024 AECOM Geotechnical Inspection Report. It was, however, identified in Stantec's previous reports, including our YEAR 2 inspection report. Depression/sinkhole does not appear to have progressed further. Partially healed cracks identified in the AECOM 2024 report appeared to have fully healed as the cracks were not visible now. No other significant concerns were identified.	None.
	TSCA Visual Assessment and Instrumentation Monitoring	[August 20, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections and data downloads of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Confimed VT1 is recording data. A thermistor bead from VT1 at approximately 298.1 m AMSL appears to not be functioning. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Some depressions and evidence of animal burrowing activity observed. [July 20, 2024] Successfully connected to and downloaded data from VT1, VT2, VB1, VB2, and VB3. Datalogger battery life observed to be at ~90%Internal clocks observed to be 2 to 4 hours behind. Documented damage to instrumentation; VT1 was observed to have been damaged by wildlife, consisten with historical observations. VT1 datalogger status indicated 'Logging' at 12-hour intervals; however, last data were recorded in September 2022. [July 16, 2024] Veriffied battery voltage in VT1, VT2, VB1, VB2, and VB3. Communicated with in-office K'alo-Stantec automation specialist over satellite phone to troubleshoot instrumentation. Issues persisted; could not establish communication between dataloggers and desktop software interface. [July 11, 2024] Inspected instrumentation batteries and wired connections. Replacement date of September 4, 2020 observed on batteries. Battery in VT1 found to be disconnected from the terminal. Replaced battery in VT1 with supplmenetal battery taken to site; laptop recognized the connected device; however, the software interface could not establish a connection. [July 10, 2024] Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be established. Datalogger battery issue suspected. [June 14, 2024] Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be estbalished. Reviewed DTLogger PC Manual and determined that DT2055 and DT2040 Controller Driver Sets need to be installed on the Field Lead's laptop. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Several Arctic Tern were nesting on the TSCA surface; therefore, the TSCA surface was not visually assessed on foot. No new concerns observed. Completed visual assessment of CAM_SO_01, CAM_SO_03, CAM_SO_04, CAM_SO_05, CAM_SO_06, CAM_SO_07, CAM_SO_08, CAM_SO_09, CAM_SO_11, CAM_SO_14, CAM_SO_12, CAM_SO_18, and CAM_SO_19. No new concerns observed. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Scope complete.
	SNP Groundwater Monitoring and Sampling	[August 20, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for full sample collection; a partial sample was collected (total and dissolved metals only). [July 16, 2024] Collected partial sample from MW5 (SNP2016-7c). Insufficient groundwater recovery or full sample collection. [July 11, 2024] Attempted to collect groundwater sample from MW5 (SNP2016-7c). Insufficient recharge was observed; therefore, no sample was collected. [July 10, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d), MW2, and MW1. Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection. Repaired fallen SNP station identification sign at MW6 (SNP2016-7d). [June 14, 2024] Retrieved and disposed of the bailer lodged in MW5 (SNP2016-7c) and completed groundwater monitoring and sampling. Insufficient water available for full sample collection; partial sample collected. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren TSCA	Surface Water Monitoring and Sampling	[August 20, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [July 10, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [June 14, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore no samples were collected.	Scope complete.
Camlaren (Zenith Island)	Visual Assessment	[June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed.	None.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c.	To be completed during subsequent field program event site visit.
Kidney Pond	Visual Assessment	[June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed.	None.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d.	To be completed during subsequent field program event site visit.
Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Treacy	Visual Assessment	[June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed.	None.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e.	To be completed during subsequent field program event site visit.
West Bay	Visual Assessment	[June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed.	None.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f.	To be completed during subsequent field program event site visit.
Sampling Completed:			
Burnt Island	[July 11, 2024] GLG-2024-00002-009 [June 13, 2024] GLG-2024-00001-009		
Camlaren (TSCA)	[August 20, 2024] GLG-2024-00003-001, GLG-2024-00003-002, GLG-2024-00003-003, GLG-2024-00003-004, GLG-2024-00003-006, GLG-2024-00003-010, GLG-2024-00003-011, GLG-2024-00003-012, GLG-2024-00003-013, GLG-2024-00003-005 (partial) [July 16, 2024] GLG-2024-00002-005 (partial) [July 10, 2024] GLG-2024-00002-001, GLG-2024-00002-002, GLG-2024-00002-003, GLG-2024-00002-004, GLG-2024-00002-006, GLG-2024-00002-010, GLG-2024-00002-011, GLG-2024-00002-012, GLG-2024-00002-013, GLG-2024-00002-019 [June 14, 2024] GLG-2024-00001-005 (partial), GLG-2024-00001-010, GLG-2024-00001-011, GLG-2024-00001-012, GLG-2024-00001-013 [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006		
Camlaren (Zenith Island)	[July 11, 2024] GLG-2024-00002-014 [June 13, 2024] GLG-2024-00001-014		
Kidney Pond	[July 11, 2024] GLG-2024-00002-015 [June 13, 2024] GLG-2024-00001-015		
Treacy	[July 11, 2024} GLG-2024-00002-016 [June 13, 2024] GLG-2024-00001-016		
West Bay	[July 11, 2024] GLG-2024-00002-017 [June 13, 2024] GLG-2024-00001-017		
Quality Control	[August 20, 2024] GLG-2024-00003-019 (groundwater BFD) [July 11, 2024] GLG-2024-00002-020 (surface water BFD), GLG-2024-00002-022 (Trip Blank), GLG-2024-00002-023 (Field Blank) [July 10, 2024] GLG-2024-00001-019 (groundwater BFD) [June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-019 (groundwater BFD), GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank)		
Samples Not Collected	[August 20, 2024] GLG-2024-00003-007, GLG-2024-00003-008 [July 10, 2024] GLG-2024-00002-007, GLG-2024-00002-008 [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008		
Regulatory Concerns			
None.			

Daily Photo Record

Photo 1

Tarek Ghadieh and Darryl Bohnet completing groundwater monitoring and sampling at MW3 (SNP2016-7a), facing east.

Photo 2

Tarek Ghadieh completing groundwater monitoring and sampling at MW2, facing south-southeast.

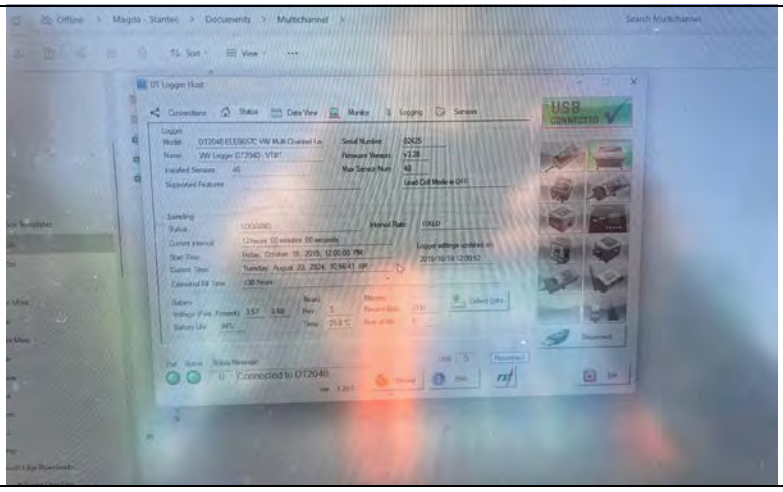


Photo 3

Thermistor VT1 logging status.

Daily Photo Record

Photo 4

Evidence of animal burrowing on TSCA surface.

Photo 5

Discharge/seepage sampling station SNP 2016-8b observed to be dry, facing south.

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	August 21, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	08:00-18:00
Weather:	Cloudy, 18 to 22°C	**Report by:**	Magda Celejewski

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	Darryl Bohnet with the North Slave Métis Alliance accompanied K'alo-Stantec as part of the Job Shadow Training Program
Ek'edia	1	1	
K'alo-Stantec	2	0	
North Slave Métis Alliance	1	1	

Personnel:

Name	Position
Magda Celejewski	K'alo-Stantec Field Lead
Tarek Ghadieh	K'alo-Stantec Field Crew Member
Darryl Bohnet	North Slave Métis Alliance Job Shadow
Norman Betsina	Ek'edia Wildlife Monitor
Luke Spence	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of the field schedule on August 15, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan (Risk Management Strategy [RMS] 1).

Logistics:

Helicopter did not depart Yellowknife Acasta due to weather conditions.

Health, Safety, Security, and Environment:

Departure from Acasta was initially delayed due to wildfire smoke and weather conditions, including low clouds and high wind gusts. Acasta advised they could not safely land at the project sites with four field crew members and equipment; therefore, one K'alo-Stantec crew member behind (Tarek Ghadieh) will stay behind in order to complete the scope of work. Acasta confirmed at mid-day that they could not safely fly to the project sites due to weather conditions. Acasta confirmed that forecast looks improved for flight to site on Thursday August 22nd.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[August 21, 2024] Peter Crookedhand indicated he could not work outside due to wildfire smoke. Norman Betsina of Ek'edia Services was sent in Peter's place.	Continue to monitoring wildfire smoke forecast and observed conditions; adjust work as necessary.
	[July 11, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a moose was observed at Burnt Island. The moose wandered away from the worksite area upon detecting the helicopter and was not observed again throughout the day.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities:

Day 2 of 3 of the field program event was not completed.

Site Activities:

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[June 14, 2024] Completed visual assessment of the Waste Rock Area, Tailings Impoundment Area, and Shaft. No new concerns observed. [June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed.	To be completed during subsequent field program event.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a.	To be completed during subsequent field program event site visit.
Camlaren (TSCA)	TSCA Dam Safety Inspection	[July 16, 2024] Completed Dam Safety Inspection. One surface depression/sinkhole was observed near the north end of the TSCA. This sinkhole had not been identified in the April 5, 2024 AECOM Geotechnical Inspection Report. It was, however, identified in Stantec's previous reports, including our YEAR 2 inspection report. Depression/sinkhole does not appear to have progressed further. Partially healed cracks identified in the AECOM 2024 report appeared to have fully healed as the cracks were not visible now. No other significant concerns were identified.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA)	TSCA Visual Assessment and Instrumentation Monitoring	[August 20, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections and data downloads of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. [July 20, 2024] Successfully connected to and downloaded data from VT1, VT2, VB1, VB2, and VB3. Datalogger battery life observed to be at ~90%Internal clocks observed to be 2 to 4 hours behind. Documented damage to instrumentation; VT1 was observed to have been damaged by wildlife, consisten with historical observations. VT1 datalogger status indicated 'Logging' at 12-hour intervals; however, last data were recorded in September 2022. [July 16, 2024] Veriffied battery voltage in VT1, VT2, VB1, VB2, and VB3. Communicated with in-office K'alo-Stantec automation specialist over satellite phone to troubleshoot instrumentation. Issues persisted; could not establish communication between dataloggers and desktop software interface. [July 11, 2024] Inspected instrumentation batteries and wired connections. Replacement date of September 4, 2020 observed on batteries. Battery in VT1 found to be disconnected from the terminal. Replaced battery in VT1 with supplmenetal battery taken to site; laptop recognized the connected device; however, the software interface could not establish a connection. [July 10, 2024] Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be established. Datalogger battery issue suspected. [June 14, 2024] Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be estbalished. Reviewed DTLogger PC Manual and determined that DT2055 and DT2040 Controller Driver Sets need to be installed on the Field Lead's laptop. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Several Arctic Tern were nesting on the TSCA surface; therefore, the TSCA surface was not visually assessed on foot. No new concerns observed. Completed visual assessment of CAM_SO_01, CAM_SO_03, CAM_SO_04, CAM_SO_05, CAM_SO_06, CAM_SO_07, CAM_SO_08, CAM_SO_09, CAM_SO_11, CAM_SO_14, CAM_SO_12, CAM_SO_18, and CAM_SO_19. No new concerns observed. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Scope complete.
	SNP Groundwater Monitoring and Sampling	[August 20, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d). Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection, total and dissolved metals collected. [July 16, 2024] Collected partial sample from MW5 (SNP2016-7c). Insufficient groundwater recovery or full sample collection. [July 11, 2024] Attempted to collect groundwater sample from MW5 (SNP2016-7c). Insufficient recharge was observed; therefore, no sample was collected. [July 10, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d), MW2, and MW1. Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection. Repaired fallen SNP station identification sign at MW6 (SNP2016-7d). [June 14, 2024] Retrieved and disposed of the bailer lodged in MW5 (SNP2016-7c) and completed groundwater monitoring and sampling. Insufficient water available for full sample collection; partial sample collected. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Scope complete.
	Surface Water Monitoring and Sampling	[August 20, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [July 10, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [June 14, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore no samples were collected.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (Zenith Island)	Visual Assessment	[June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed.	To be completed during subsequent field program event.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c.	To be completed during subsequent field program event site visit.
Kidney Pond	Visual Assessment	[June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed.	To be completed during subsequent field program event.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d.	To be completed during subsequent field program event site visit.
Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Treacy	Visual Assessment	[June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed.	To be completed during subsequent field program event.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e.	To be completed during subsequent field program event site visit.
West Bay	Visual Assessment	[June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed.	To be completed during subsequent field program event.
	Surface Water Monitoring and Sampling	[July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f.	To be completed during subsequent field program event site visit.
Sampling Completed:			
Burnt Island	[July 11, 2024] GLG-2024-00002-009 [June 13, 2024] GLG-2024-00001-009		
Camlaren (TSCA)	[August 20, 2024]GLG-2024-00003-001, GLG-2024-00003-002, GLG-2024-00003-003, GLG-2024-00003-004, GLG-2024-00003-006, GLG-2024-00003-010, GLG-2024-00003-011, GLG-2024-00003-012, GLG-2024-00003-013, GLG-2024-00003-005 (partial) [July 16, 2024] GLG-2024-00002-005 (partial) [July 10, 2024] GLG-2024-00002-001, GLG-2024-00002-002, GLG-2024-00002-003, GLG-2024-00002-004, GLG-2024-00002-006, GLG-2024-00002-010, GLG-2024-00002-011, GLG-2024-00002-012, GLG-2024-00002-013, GLG-2024-00002-019 [June 14, 2024] GLG-2024-00001-005 (partial), GLG-2024-00001-010, GLG-2024-00001-011, GLG-2024-00001-012, GLG-2024-00001-013 [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006		
Camlaren (Zenith Island)	[July 11, 2024] GLG-2024-00002-014 [June 13, 2024] GLG-2024-00001-014		
Kidney Pond	[July 11, 2024] GLG-2024-00002-015 [June 13, 2024] GLG-2024-00001-015		
Treacy	[July 11, 2024} GLG-2024-00002-016 [June 13, 2024] GLG-2024-00001-016		
West Bay	[July 11, 2024] GLG-2024-00002-017 [June 13, 2024] GLG-2024-00001-017		
Quality Control	[August 20, 2024] GLG-2024-00001-019 (groundwater BFD) [July 11, 2024] GLG-2024-00002-020 (surface water BFD), GLG-2024-00002-022 (Trip Blank), GLG-2024-00002-023 (Field Blank) [July 10, 2024] GLG-2024-00001-019 (groundwater BFD) [June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-019 (groundwater BFD), GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank)		
Samples Not Collected	[August 20, 2024] GLG-2024-00003-007, GLG-2024-00003-008 [July 10, 2024] GLG-2024-00002-007, GLG-2024-00002-008 [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008		
Regulatory Concerns			
None.			

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	August 22, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	08:00-18:00
Weather:	Partly Cloudy, 11 to 16°C	**Report by:**	Magda Celejewski

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	Darryl Bohnet with the North Slave Métis Alliance accompanied K'alo-Stantec as part of the Job Shadow Training Program.
Ek'edia	1	1	
K'alo-Stantec	1	0	
North Slave Métis Alliance	1	1	

Personnel:

Name	Position
Tarek Ghadieh	K'alo-Stantec Field Lead
Darryl Bohnet	North Slave Métis Alliance Job Shadow
Peter Crookedhand	Ek'edia Wildlife Monitor
Luke Spence	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on August 15, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:38 and arrived at Kidney Pond at 09:14.
Helicopter departed Kidney Pond at 09:57 and arrived at Treacy at 10:00.
Helicopter departed Treacy at 10:27 and arrived at West Bay at 10:33.
Helicopter departed West Bay at 10:56 and arrived at Zenith Island at 11:02.
Helicopter departed Zenith Island at 11:32 and arrived at Burnt Island at 11:38.
Helicopter departed Burnt Island at 12:28 and arrived at Dome Lake to refuel at 13:02.
Helicopter departed Dome Lake at 13:02 and arrived at Yellowknife Acasta at 13:33.

Health, Safety, Security, and Environment:

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Completed tailgate safety meeting including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Kidney Pond.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[August 21, 2024] Peter Crookedhand indicated he could not work outside due to wildfire smoke. Norman Betsina of Ek'edia Services was sent in Peter's place.	Continue to monitoring wildfire smoke forecast and observed conditions; adjust work as necessary.
	[July 11, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a moose was observed at Burnt Island. The moose wandered away from the worksite area upon detecting the helicopter and was not observed again throughout the day.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities:

Completed day 3 of 3 of the field program event. Planned scope of work included surface water sampling and visual assessments at Burnt Island, Zenith Island, Kidney Pond, West Bay, and Treacy.

Site Activities:

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[August 22, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed. [June 14, 2024] Completed visual assessment of the Waste Rock Area, Tailings Impoundment Area, and Shaft. No new concerns observed. [June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA)	TSCA Dam Safety Inspection	[July 16, 2024] Completed Dam Safety Inspection. One surface depression/sinkhole was observed near the north end of the TSCA. This sinkhole had not been identified in the April 5, 2024 AECOM Geotechnical Inspection Report. It was, however, identified in Stantec's previous reports, including our YEAR 2 inspection report. Depression/sinkhole does not appear to have progressed further. Partially healed cracks identified in the AECOM 2024 report appeared to have fully healed as the cracks were not visible now. No other significant concerns were identified.	Scope complete.
	TSCA Visual Assessment and Instrumentation Monitoring	[August 20, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections and data downloads of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. [July 20, 2024] Successfully connected to and downloaded data from VT1, VT2, VB1, VB2, and VB3. Datalogger battery life observed to be at ~90%Internal clocks observed to be 2 to 4 hours behind. Documented damage to instrumentation; VT1 was observed to have been damaged by wildlife, consisten with historical observations. VT1 datalogger status indicated 'Logging' at 12-hour intervals; however, last data were recorded in September 2022. [July 16, 2024] Veriffied battery voltage in VT1, VT2, VB1, VB2, and VB3. Communicated with in-office K'alo-Stantec automation specialist over satellite phone to troubleshoot instrumentation. Issues persisted; could not establish communication between dataloggers and desktop software interface. [July 11, 2024] Inspected instrumentation batteries and wired connections. Replacement date of September 4, 2020 observed on batteries. Battery in VT1 found to be disconnected from the terminal. Replaced battery in VT1 with supplmenetal battery taken to site; laptop recognized the connected device; however, the software interface could not establish a connection. [July 10, 2024] Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be established. Datalogger battery issue suspected. [June 14, 2024] Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be estbalished. Reviewed DTLogger PC Manual and determined that DT2055 and DT2040 Controller Driver Sets need to be installed on the Field Lead's laptop. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Several Arctic Tern were nesting on the TSCA surface; therefore, the TSCA surface was not visually assessed on foot. No new concerns observed. Completed visual assessment of CAM_SO_01, CAM_SO_03, CAM_SO_04, CAM_SO_05, CAM_SO_06, CAM_SO_07, CAM_SO_08, CAM_SO_09, CAM_SO_11, CAM_SO_14, CAM_SO_12, CAM_SO_18, and CAM_SO_19. No new concerns observed. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Scope complete.
	SNP Groundwater Monitoring and Sampling	[August 20, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d). Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection, total and dissolved metals collected. [July 16, 2024] Collected partial sample from MW5 (SNP2016-7c). Insufficient groundwater recovery or full sample collection. [July 11, 2024] Attempted to collect groundwater sample from MW5 (SNP2016-7c). Insufficient recharge was observed; therefore, no sample was collected. [July 10, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d), MW2, and MW1. Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection. Repaired fallen SNP station identification sign at MW6 (SNP2016-7d). [June 14, 2024] Retrieved and disposed of the bailer lodged in MW5 (SNP2016-7c) and completed groundwater monitoring and sampling. Insufficient water available for full sample collection; partial sample collected. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren TSCA	Surface Water Monitoring and Sampling	[August 20, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [July 10, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [June 14, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore no samples were collected.	Scope complete.
Camlaren (Zenith Island)	Visual Assessment	[August 22, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed. [June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c.	Scope complete.
Kidney Pond	Visual Assessment	[August 22, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed. [June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d.	Scope complete.
Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Treacy	Visual Assessment	[August 22, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed. [June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e.	Scope complete.
West Bay	Visual Assessment	[August 22, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed. [June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f.	Scope complete.

Sampling Completed:	
Burnt Island	[August 22, 2024] GLG-2024-00003-009 [July 11, 2024] GLG-2024-00002-009 [June 13, 2024] GLG-2024-00001-009
Camlaren (TSCA)	[August 20, 2024]GLG-2024-00003-001, GLG-2024-00003-002, GLG-2024-00003-003, GLG-2024-00003-004, GLG-2024-00003-006, GLG-2024-00003-010, GLG-2024-00003-011, GLG-2024-00003-012, GLG-2024-00003-013, GLG-2024-00003-005 (partial) [July 16, 2024] GLG-2024-00002-005 (partial) [July 10, 2024] GLG-2024-00002-001, GLG-2024-00002-002, GLG-2024-00002-003, GLG-2024-00002-004, GLG-2024-00002-006, GLG-2024-00002-010, GLG-2024-00002-011, GLG-2024-00002-012, GLG-2024-00002-013, GLG-2024-00002-019 [June 14, 2024] GLG-2024-00001-005 (partial), GLG-2024-00001-010, GLG-2024-00001-011, GLG-2024-00001-012, GLG-2024-00001-013 [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006
Camlaren (Zenith Island)	[August 22, 2024] GLG-2024-00003-014 [July 11, 2024] GLG-2024-00002-014 [June 13, 2024] GLG-2024-00001-014
Kidney Pond	[August 22, 2024] GLG-2024-00003-015 [July 11, 2024] GLG-2024-00002-015 [June 13, 2024] GLG-2024-00001-015
Treacy	[August 22, 2024] GLG-2024-00003-016 [July 11, 2024} GLG-2024-00002-016 [June 13, 2024] GLG-2024-00001-016
West Bay	[August 22, 2024] GLG-2024-00003-017 [July 11, 2024] GLG-2024-00002-017 [June 13, 2024] GLG-2024-00001-017
Quality Control	[August 22, 2024] GLG-2024-00003-020 (surface water BFD), GLG-2024-00003-022 (Trip Blank), GLG-2024-00003-023 (Field Blank) [August 20, 2024] GLG-2024-00001-019 (groundwater BFD) [July 11, 2024] GLG-2024-00002-020 (surface water BFD), GLG-2024-00002-022 (Trip Blank), GLG-2024-00002-023 (Field Blank) [July 10, 2024] GLG-2024-00001-019 (groundwater BFD) [June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-019 (groundwater BFD), GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank)
Samples Not Collected	[August 20, 2024] GLG-2024-00003-007, GLG-2024-00003-008 [July 10, 2024] GLG-2024-00002-007, GLG-2024-00002-008 [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008
Regulatory Concerns	
None.	

Daily Photo Record

Photo 1

Sampling location SNP2016-11d at Kidney Pond, facing north.

Photo 2

Darryl Bohnet collecting a surface water sample from SNP2016-11f at West Bay, facing southwest.

Photo 3

Darryl Bohnet measuring in-situ water quality parameters at SNP2016-11 (Burnt Island), facing northeast.

Daily Photo Record

Photo 4

Burnt Island Portal, facing southwest.

Photo 5

Sampling location SNP2016-11f at West Bay, facing north.

Photo 6

Surface water sampling location SNP2016-11e at Treacy, facing southeast.

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	September 11, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	07:00-19:00
Weather:	Partly Cloudy, Calm, 5 to 14°C	**Report by:**	Magda Celejewski

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	None.
Ek'edia	1	1	
K'alo-Stantec	2	0	

Personnel:

Name	Position
Magda Celejewski	K'alo-Stantec Field Lead
Jolene Moyer	K'alo-Stantec Field Crew
Peter Crookedhand	Ek'edia Wildlife Monitor
Luke Spence	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on September 9, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:38 and arrived at Kidney Pond at 10:14.
Helicopter departed Kidney Pond at 10:42 and arrived at Treacy at 10:53.
Helicopter departed Treacy at 11:15 and arrived at West Bay at 11:30.
Helicopter departed West Bay at 11:55 and arrived at Zenith Island at 12:07.
Helicopter departed Zenith Island at 12:25 and arrived at Camlaren at 12:34.
Helicopter departed Camlaren at 13:42 and arrived at Burnt Island at 13:54.
Helicopter departed Burnt Island at 14:41 and arrived at Yellowknife Acasta at 15:31.

Health, Safety, Security, and Environment:

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Completed tailgate safety meeting including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Kidney Pond.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[August 21, 2024] Peter Crookedhand indicated he could not work outside due to wildfire smoke. Norman Betsina of Ek'edia Services was sent in Peter's place.	Continue to monitoring wildfire smoke forecast and observed conditions; adjust work as necessary.
	[July 11, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a moose was observed at Burnt Island. The moose wandered away from the worksite area upon detecting the helicopter and was not observed again throughout the day.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities:

Completed day 1 of 2 of the field program event. Planned scope of work included surface water sampling and visual assessments at Burnt Island, Zenith Island, Kidney Pond, West Bay, and Treacy, and visual assessments and data downloads from instrumentation at Camlaren.

Site Activities:

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[September 11, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed. [August 22, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed. [June 14, 2024] Completed visual assessment of the Waste Rock Area, Tailings Impoundment Area, and Shaft. No new concerns observed. [June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[September 11, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA)	TSCA Dam Safety Inspection	[July 16, 2024] Completed Dam Safety Inspection. One surface depression/sinkhole was observed near the north end of the TSCA. This sinkhole had not been identified in the April 5, 2024 AECOM Geotechnical Inspection Report. It was, however, identified in Stantec's previous reports, including our YEAR 2 inspection report. Depression/sinkhole does not appear to have progressed further. Partially healed cracks identified in the AECOM 2024 report appeared to have fully healed as the cracks were not visible now. No other significant concerns were identified.	Scope complete.
	TSCA Visual Assessment and Instrumentation Monitoring	[September 11, 2024] Completed visual inspections and data downloads of VB1, VB2, VB3, VT1, and VT2. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Some animal soil disturbance observed on the TSCA. [August 20, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections and data downloads of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. [July 20, 2024] Successfully connected to and downloaded data from VT1, VT2, VB1, VB2, and VB3. Datalogger battery life observed to be at ~90%Internal clocks observed to be 2 to 4 hours behind. Documented damage to instrumentation; VT1 was observed to have been damaged by wildlife, consisten with historical observations. VT1 datalogger status indicated 'Logging' at 12-hour intervals; however, last data were recorded in September 2022. [July 16, 2024] Veriffied battery voltage in VT1, VT2, VB1, VB2, and VB3. Communicated with in-office K'alo-Stantec automation specialist over satellite phone to troubleshoot instrumentation. Issues persisted; could not establish communication between dataloggers and desktop software interface. [July 11, 2024] Inspected instrumentation batteries and wired connections. Replacement date of September 4, 2020 observed on batteries. Battery in VT1 found to be disconnected from the terminal. Replaced battery in VT1 with supplmenetal battery taken to site; laptop recognized the connected device; however, the software interface could not establish a connection. [July 10, 2024] Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be established. Datalogger battery issue suspected. [June 14, 2024] Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be estbalished. Reviewed DTLogger PC Manual and determined that DT2055 and DT2040 Controller Driver Sets need to be installed on the Field Lead's laptop. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Several Arctic Tern were nesting on the TSCA surface; therefore, the TSCA surface was not visually assessed on foot. No new concerns observed. Completed visual assessment of CAM_SO_01, CAM_SO_03, CAM_SO_04, CAM_SO_05, CAM_SO_06, CAM_SO_07, CAM_SO_08, CAM_SO_09, CAM_SO_11, CAM_SO_14, CAM_SO_12, CAM_SO_18, and CAM_SO_19. No new concerns observed. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Remaining scope to be completed during subsequent field program event site visit.
	SNP Groundwater Monitoring and Sampling	[August 20, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d). Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection, total and dissolved metals collected. [July 16, 2024] Collected partial sample from MW5 (SNP2016-7c). Insufficient groundwater recovery or full sample collection. [July 11, 2024] Attempted to collect groundwater sample from MW5 (SNP2016-7c). Insufficient recharge was observed; therefore, no sample was collected. [July 10, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d), MW2, and MW1. Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection. Repaired fallen SNP station identification sign at MW6 (SNP2016-7d). [June 14, 2024] Retrieved and disposed of the bailer lodged in MW5 (SNP2016-7c) and completed groundwater monitoring and sampling. Insufficient water available for full sample collection; partial sample collected. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	To be completed during subsequent field program event site visit.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren TSCA	Surface Water Monitoring and Sampling	[August 20, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [July 10, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [June 14, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore no samples were collected.	To be completed during subsequent field program event site visit.
Camlaren (Zenith Island)	Visual Assessment	[September 11, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed. [August 22, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed. [June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[September 11, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c.	Scope complete.
Kidney Pond	Visual Assessment	[September 11, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed. [August 22, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed. [June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[Sepember 11, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d.	Scope complete.
Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Treacy	Visual Assessment	[September 11, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed. [August 22, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed. [June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[September 11, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e.	Scope complete.
West Bay	Visual Assessment	[September 11, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed. [August 22, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed. [June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[September 11, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f.	Scope complete.

Sampling Completed:	
Burnt Island	[September 11, 2024] GLG-2024-00004-009 [August 22, 2024] GLG-2024-00003-009 [July 11, 2024] GLG-2024-00002-009 [June 13, 2024] GLG-2024-00001-009
Camlaren (TSCA)	[August 20, 2024]GLG-2024-00003-001, GLG-2024-00003-002, GLG-2024-00003-003, GLG-2024-00003-004, GLG-2024-00003-006, GLG-2024-00003-010, GLG-2024-00003-011, GLG-2024-00003-012, GLG-2024-00003-013, GLG-2024-00003-005 (partial) [July 16, 2024] GLG-2024-00002-005 (partial) [July 10, 2024] GLG-2024-00002-001, GLG-2024-00002-002, GLG-2024-00002-003, GLG-2024-00002-004, GLG-2024-00002-006, GLG-2024-00002-010, GLG-2024-00002-011, GLG-2024-00002-012, GLG-2024-00002-013, GLG-2024-00002-019 [June 14, 2024] GLG-2024-00001-005 (partial), GLG-2024-00001-010, GLG-2024-00001-011, GLG-2024-00001-012, GLG-2024-00001-013 [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006
Camlaren (Zenith Island)	[September 11, 2024] GLG-2024-00004-014 [August 22, 2024] GLG-2024-00003-014 [July 11, 2024] GLG-2024-00002-014 [June 13, 2024] GLG-2024-00001-014
Kidney Pond	[September 11, 2024] GLG-2024-00004-015 [August 22, 2024] GLG-2024-00003-015 [July 11, 2024] GLG-2024-00002-015 [June 13, 2024] GLG-2024-00001-015
Treacy	[September 11, 2024] GLG-2024-00004-016 [August 22, 2024] GLG-2024-00003-016 [July 11, 2024} GLG-2024-00002-016 [June 13, 2024] GLG-2024-00001-016
West Bay	[September 11, 2024] GLG-2024-00004-017 [August 22, 2024] GLG-2024-00003-017 [July 11, 2024] GLG-2024-00002-017 [June 13, 2024] GLG-2024-00001-017
Quality Control	[September 11, 2024] GLG-2024-00004-020 (surface water BFD), GLG-2024-00004-022 (Trip Blank), GLG-2024-00004-023 (Field Blank) [August 22, 2024] GLG-2024-00003-020 (surface water BFD), GLG-2024-00003-022 (Trip Blank), GLG-2024-00003-023 (Field Blank) [August 20, 2024] GLG-2024-00001-019 (groundwater BFD) [July 11, 2024] GLG-2024-00002-020 (surface water BFD), GLG-2024-00002-022 (Trip Blank), GLG-2024-00002-023 (Field Blank) [July 10, 2024] GLG-2024-00001-019 (groundwater BFD) [June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-019 (groundwater BFD), GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank)
Samples Not Collected	[August 20, 2024] GLG-2024-00003-007, GLG-2024-00003-008 [July 10, 2024] GLG-2024-00002-007, GLG-2024-00002-008 [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008
Regulatory Concerns	
None.	

Daily Photo Record

Photo 1

Sampling location SNP2016-11d at Kidney Pond, facing north.

Photo 2

Jolene Moyer collecting a surface water sample from SNP 2016-11e at Treacy.

Photo 3

Jolene Moyer collecting a surface water sample from SNP 2016-11f at West Bay.

Daily Photo Record

Photo 4

Vibrating wire (VB-1) piezometer at Camlaren TSCA.

Photo 5

Soil disturbance at the Camlaren TSCA.

Photo 6

Soil disturbance and exposed liner on the Camlaren TSCA.

Gordon Lake Group Sites Daily Report			
Client:	PSPC/CIRNAC	**Report Date:**	September 12, 2024
Project:	Akaitcho Sites Long-Term Monitoring	**Contractor:**	K'alo-Stantec
Stantec Project Number	123515016	**Day Shift Hours**	07:00-19:00
Weather:	Sunny, breezy, 5 to 14°C	**Report by:**	Magda Celejewski

Company	Total # of Workers	# of Aboriginal Workers	Note:
Acasta	1	0	Joseph Gonin with the North Slave Métis Alliance accompanied K'alo-Stantec as part of the Job Shadow Training Program.
Ek'edia	1	1	
North Slave Métis Alliance	1	0	
K'alo-Stantec	2	0	

Personnel:

Name	Position
Magda Celejewski	K'alo-Stantec Field Lead
Jolene Moyer	K'alo-Stantec Field Crew
Peter Crookedhand	Ek'edia Wildlife Monitor
Joseph Gonin	North Slave Métis Alliance
Luke Spence	Acasta Pilot

Communications:

440 Squadron and applicable Yellowknife airline operators were notified of field schedule on September 9, 2024.
Acasta pilot followed call out procedures upon arrival to and departure from site.
Followed check-in and check-out procedures per the Site-Specific Health and Safety Plan, Emergency Response Plan, and Project HHSE Plan(Risk Management Strategy [RMS] 1).

Logistics:

Helicopter departed Yellowknife Acasta at 08:58 and arrived at Camlaren at 9:41.
Helicopter departed Camlaren at 14:08 and arrived at Yellowknife Acasta at 14:50.

Health, Safety, Security, and Environment:

Completed safety briefing at Acasta prior to departure from Yellowknife, including Acasta video safety demonstration and aircraft orientation. Acasta pilot demonstrated the use of helicopter doors, the location of safety equipment within the aircraft, and provided general safety information related to the aircraft prior to departure.
Completed tailgate safety meeting including a review of the Project HSSE Plan (RMS 1 form), Emergency Response Plan, and Field-Level Risk Assessment (RMS 2 form), upon arrival at Camlaren.

HSSE Leading Indicator/Report Submission Type	Report/Incident Description	Recommended Action
Observation: Hazard Identification	[August 21, 2024] Peter Crookedhand indicated he could not work outside due to wildfire smoke. Norman Betsina of Ek'edia Services was sent in Peter's place.	Continue to monitoring wildfire smoke forecast and observed conditions; adjust work as necessary.
	[July 11, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a moose was observed at Burnt Island. The moose wandered away from the worksite area upon detecting the helicopter and was not observed again throughout the day.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] While completing an aerial assessment for potential wildlife in the work area prior to landing, a black bear was observed at Kidney Pond. No work was completed in the Kidney Pond area.	Continue to complete aerial assessments of the work area prior to landing and devise an alternate plan as appropriate.
	[June 12, 2024] Approximately 10 Arctic Terns were observed at Camlaren. The birds were territorial and aggressive on and near the TSCA. Efforts were made to avoid the birds.	Be aware the migratory birds can be territorial. Avoid nesting areas as practical.

Summary of Site Activities:

Completed day 2 of 2 of the field program event. Planned scope of work included surface water and groundwater monitoring and sampling at Camlaren.

Site Activities:

Component / Area	Monitoring Type	Activity and/or Observation	Scope of Work Remaining / Recommended Action
Burnt Island	Visual Assessment	[September 11, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed. [August 22, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed. [June 14, 2024] Completed visual assessment of the Waste Rock Area, Tailings Impoundment Area, and Shaft. No new concerns observed. [June 13, 2024] Completed visual assessment of BUR_SO_07 and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[September 11, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11a. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11a.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA)	TSCA Dam Safety Inspection	[July 16, 2024] Completed Dam Safety Inspection. One surface depression/sinkhole was observed near the north end of the TSCA. This sinkhole had not been identified in the April 5, 2024 AECOM Geotechnical Inspection Report. It was, however, identified in Stantec's previous reports, including our YEAR 2 inspection report. Depression/sinkhole does not appear to have progressed further. Partially healed cracks identified in the AECOM 2024 report appeared to have fully healed as the cracks were not visible now. No other significant concerns were identified.	Scope complete.
	TSCA Visual Assessment and Instrumentation Monitoring	[September 12, 2024] Measured TOC of TSCA instrumentation. Completed groundwater monitoring and sampling at MW1 and MW2. [September 11, 2024] Completed visual inspections and data downloads of VB1, VB2, VB3, VT1, and VT2. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Some animal soil disturbance observed on the TSCA. [August 20, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections and data downloads of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. [July 20, 2024] Successfully connected to and downloaded data from VT1, VT2, VB1, VB2, and VB3. Datalogger battery life observed to be at ~90%Internal clocks observed to be 2 to 4 hours behind. Documented damage to instrumentation; VT1 was observed to have been damaged by wildlife, consisten with historical observations. VT1 datalogger status indicated 'Logging' at 12-hour intervals; however, last data were recorded in September 2022. [July 16, 2024] Veriffied battery voltage in VT1, VT2, VB1, VB2, and VB3. Communicated with in-office K'alo-Stantec automation specialist over satellite phone to troubleshoot instrumentation. Issues persisted; could not establish communication between dataloggers and desktop software interface. [July 11, 2024] Inspected instrumentation batteries and wired connections. Replacement date of September 4, 2020 observed on batteries. Battery in VT1 found to be disconnected from the terminal. Replaced battery in VT1 with supplmenetal battery taken to site; laptop recognized the connected device; however, the software interface could not establish a connection. [July 10, 2024] Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements. Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be established. Datalogger battery issue suspected. [June 14, 2024] Attempted to download data from VB1, VB2, VB3, VT1, and VT2 but connection to the instruments over USB communication port could not be estbalished. Reviewed DTLogger PC Manual and determined that DT2055 and DT2040 Controller Driver Sets need to be installed on the Field Lead's laptop. Completed aerial visual assessment of the TSCA and on-foot visual assessment of the TSCA embankments/berms. Several Arctic Tern were nesting on the TSCA surface; therefore, the TSCA surface was not visually assessed on foot. No new concerns observed. Completed visual assessment of CAM_SO_01, CAM_SO_03, CAM_SO_04, CAM_SO_05, CAM_SO_06, CAM_SO_07, CAM_SO_08, CAM_SO_09, CAM_SO_11, CAM_SO_14, CAM_SO_12, CAM_SO_18, and CAM_SO_19. No new concerns observed. [June 12, 2024] Completed groundwater monitoring and sampling at MW1 and MW2. Completed visual inspections of VB1, VB2, VB3, VT1, and VT2 including TOC measurements.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Camlaren (TSCA)	SNP Groundwater Monitoring and Sampling	[September 12, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d). Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample full collection; partial sample collected. [August 20, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d). Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for full sample collection, total and dissolved metals collected. [July 16, 2024] Collected partial sample from MW5 (SNP2016-7c). Insufficient groundwater recovery or full sample collection. [July 11, 2024] Attempted to collect groundwater sample from MW5 (SNP2016-7c). Insufficient recharge was observed; therefore, no sample was collected. [July 10, 2024] Competed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), MW6 (SNP2016-7d), MW2, and MW1. Completed groundwater monitoring at MW5 (SNP 2016-7c). Insufficient water was available for sample collection. Repaired fallen SNP station identification sign at MW6 (SNP2016-7d). [June 14, 2024] Retrieved and disposed of the bailer lodged in MW5 (SNP2016-7c) and completed groundwater monitoring and sampling. Insufficient water available for full sample collection; partial sample collected. [June 12, 2024] Completed groundwater monitoring and sampling at MW3 (SNP2016-7a), MW4 (SNP2016-7b), and MW6 (SNP2016-7d). A blockage was observed at 0.785 mBTOP in MW5 and was determined to be a bailer and twine.	Scope complete.
	Surface Water Monitoring and Sampling	[September 12, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [August 20, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [July 10, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore, no samples were collected at these two stations. [June 14, 2024] Completed surface water monitoring and sampling at SNP2016-11b1, SNP2016-11b2, SNP2016-11b3, and SNP2016-11b4. [June 12, 2024] No discharge/seepage was observed at SNP2016-8a or SNP2016-8b; therefore no samples were collected.	Scope complete.
Camlaren (Zenith Island)	Visual Assessment	[September 11, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed. [August 22, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed. [June 13, 2024] Completed visual assessment of CAM_SO_23. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[September 11, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11c. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11c.	Scope complete.
Kidney Pond	Visual Assessment	[September 11, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed. [August 22, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed. [June 13, 2024] Completed visual assessment of KID_SO_07, KID_SO_10, KID_SO_11, and Portal. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[Sepember 11, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11d. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11d.	Scope complete.

Site Activities:			
Component / Area	**Monitoring Type**	**Activity and/or Observation**	**Scope of Work Remaining / Recommended Action**
Treacy	Visual Assessment	[September 11, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed. [August 22, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed. [June 13, 2024] Completed visual assessment of TRE_SO_01, TRE_SO_02, East Trench and West Trench. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[September 11, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11e. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11e.	Scope complete.
West Bay	Visual Assessment	[September 11, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed. [August 22, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed. [June 13, 2024] Completed visual assessment of WES_TL_01, WEST_SO_02, and Open Pit. No new concerns observed.	Scope complete.
	Surface Water Monitoring and Sampling	[September 11, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [August 22, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [July 11, 2024] Completed surface water monitoring and sampling at SNP2016-11f. [June 13, 2024] Completed surface water monitoring and sampling at SNP2016-11f.	Scope complete.

Sampling Completed:	
Burnt Island	[September 11, 2024] GLG-2024-00004-009 [August 22, 2024] GLG-2024-00003-009 [July 11, 2024] GLG-2024-00002-009 [June 13, 2024] GLG-2024-00001-009
Camlaren (TSCA)	[September 12, 2024]GLG-2024-00004-001, GLG-2024-00004-002, GLG-2024-00004-003, GLG-2024-00004-004, GLG-2024-00004-006, GLG-2024-00004-010, GLG-2024-00004-011, GLG-2024-00004-012, GLG-2024-00004-013, GLG-2024-00004-005 (partial) [August 20, 2024]GLG-2024-00003-001, GLG-2024-00003-002, GLG-2024-00003-003, GLG-2024-00003-004, GLG-2024-00003-006, GLG-2024-00003-010, GLG-2024-00003-011, GLG-2024-00003-012, GLG-2024-00003-013, GLG-2024-00003-005 (partial) [July 16, 2024] GLG-2024-00002-005 (partial) [July 10, 2024] GLG-2024-00002-001, GLG-2024-00002-002, GLG-2024-00002-003, GLG-2024-00002-004, GLG-2024-00002-006, GLG-2024-00002-010, GLG-2024-00002-011, GLG-2024-00002-012, GLG-2024-00002-013, GLG-2024-00002-019 [June 14, 2024] GLG-2024-00001-005 (partial), GLG-2024-00001-010, GLG-2024-00001-011, GLG-2024-00001-012, GLG-2024-00001-013 [June 12, 2024] GLG-2024-00001-001, GLG-2024-00001-002, GLG-2024-00001-003, GLG-2024-00001-004, GLG-2024-00001-006
Camlaren (Zenith Island)	[September 11, 2024] GLG-2024-00004-014 [August 22, 2024] GLG-2024-00003-014 [July 11, 2024] GLG-2024-00002-014 [June 13, 2024] GLG-2024-00001-014
Kidney Pond	[September 11, 2024] GLG-2024-00004-015 [August 22, 2024] GLG-2024-00003-015 [July 11, 2024] GLG-2024-00002-015 [June 13, 2024] GLG-2024-00001-015
Treacy	[September 11, 2024] GLG-2024-00004-016 [August 22, 2024] GLG-2024-00003-016 [July 11, 2024} GLG-2024-00002-016 [June 13, 2024] GLG-2024-00001-016
West Bay	[September 11, 2024] GLG-2024-00004-017 [August 22, 2024] GLG-2024-00003-017 [July 11, 2024] GLG-2024-00002-017 [June 13, 2024] GLG-2024-00001-017
Quality Control	[September 12, 2024] GLG-2024-00004-019 (groundwater BFD) [September 11, 2024] GLG-2024-00004-020 (surface water BFD), GLG-2024-00004-022 (Trip Blank), GLG-2024-00004-023 (Field Blank) [August 22, 2024] GLG-2024-00003-020 (surface water BFD), GLG-2024-00003-022 (Trip Blank), GLG-2024-00003-023 (Field Blank) [August 20, 2024] GLG-2024-00003-019 (groundwater BFD) [July 11, 2024] GLG-2024-00002-020 (surface water BFD), GLG-2024-00002-022 (Trip Blank), GLG-2024-00002-023 (Field Blank) [July 10, 2024] GLG-2024-00002-019 (groundwater BFD) [June 13, 2024] GLG-2024-00001-020 (surface water BFD) [June 12, 2024] GLG-2024-00001-019 (groundwater BFD), GLG-2024-00001-022 (Trip Blank), GLG-2024-00001-023 (Field Blank)
Samples Not Collected	[September 12, 2024] GLG-2024-00004-007, GLG-2024-00004-008 [August 20, 2024] GLG-2024-00003-007, GLG-2024-00003-008 [July 10, 2024] GLG-2024-00002-007, GLG-2024-00002-008 [June 12 , 2024] GLG-2024-00001-007, GLG-2024-00001-008

Regulatory Concerns
None.

Daily Photo Record

Photo 1

Joseph Gonin completing groundwater monitoring and sampling at MW3 (SNP2016-7a).

Photo 2

Seepage sampling location SNP2016-8a, observed to be dry.

Photo 3

Jolene Moyer completing groundwater monitoring and sampling at MW1.

Daily Photo Record

Photo 4

Jolene Moyer collecting a surface water sample at SNP2016-11b4.

Photo 5

Seepage sampling location SNP2016-8b, observed to be dry.

Appendix F Copies of Laboratory Certificates of Analysis

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2400658**	Page	: 1 of 11
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 13-Jun-2024 11:00
PO	: ----	Date Analysis Commenced	: 14-Jun-2024
C-O-C number	: ----	Issue Date	: 20-Jun-2024 16:56
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Elke Tabora	Lab Analyst	Inorganics, Calgary, Alberta
Erin Sanchez		Metals, Burnaby, British Columbia
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Jyotsnarani Devi	Laboratory Analyst	Organics, Calgary, Alberta
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	*Comment*
YL2400658-001	GLG-2024-00001-001	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400658-002	GLG-2024-00001-002	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400658-003	GLG-2024-00001-003	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400658-004	GLG-2024-00001-004	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400658-005	GLG-2024-00001-006	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400658-006	GLG-2024-00001-019	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

Qualifiers

Qualifier	Description
DLA	Detection Limit adjusted for required dilution.
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-001	GLG-2024-0000 1-002	GLG-2024-0000 1-003	GLG-2024-0000 1-004	GLG-2024-0000 1-006
					Client sampling date / time	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00
						YL2400658-001	YL2400658-002	YL2400658-003	YL2400658-004	YL2400658-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		336	536	855	239	189
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		336	536	855	239	189
Conductivity	----	E100/VA	2.0	µS/cm		2700	6580	2290	1240	625
pH	----	E108/VA	0.10	pH units		7.57	7.97	7.45	7.72	8.25
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		2440	5680	1840	946	436
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		65.1	38.5	39.7	27.3	2.1
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		1520	1400	1320	624	332
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/CG	0.0050	mg/L		1.50	2.53	1.31	0.752	0.0098
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		11.6	253	31.7	9.13	0.84
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		<0.100 DLDS	<0.250 DLDS	<0.100 DLDS	<0.0250 DLDS	2.76
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		<0.443	<1.11	<0.443	<0.111	12.2
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		<0.102	<0.255	<0.102	<0.0255	2.76
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		<0.0200 DLDS	<0.0500 DLDS	<0.0200 DLDS	<0.0050 DLDS	0.0051
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		<0.0656	<0.164	<0.0656	<0.0164	0.0167
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	0.0072
Phosphorus, total	7723-14-0	E372-U/CG	0.0020	mg/L		0.0236	0.0572	0.0980	<0.0020	0.0206
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		1370	3100	563	460	139
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/CG	0.50	mg/L		3.37	13.0	19.5	11.8	3.74
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.132	0.0347	0.0155	0.0537	0.0633
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00020 DLA	0.00074	<0.00020 DLA	0.00027	0.00405

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-001	GLG-2024-0000 1-002	GLG-2024-0000 1-003	GLG-2024-0000 1-004	GLG-2024-0000 1-006
					Client sampling date / time	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00
						YL2400658-001	YL2400658-002	YL2400658-003	YL2400658-004	YL2400658-005
						Result	Result	Result	Result	Result
Total Metals										
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.0145	0.0988	0.0170	0.0294	0.00419
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0236	0.0223	0.261	0.0534	0.0317
Beryllium, total	7440-41-7	E420/VA	0.000020	mg/L		<0.000040 DLA	<0.000100 DLA	<0.000040 DLA	<0.000040 DLA	<0.000020
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000100 DLA	<0.000250 DLA	<0.000100 DLA	<0.000100 DLA	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.129	0.138	0.096	<0.020 DLA	0.011
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.000341	0.00309	<0.0000100 DLA	0.0000433	0.0000229
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		445	406	340	184	115
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000040	<0.000050 DLA	<0.000020 DLA	0.000022	<0.000010
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00100 DLA	<0.00250 DLA	<0.00100 DLA	<0.00100 DLA	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.0147	0.466	0.0214	0.0130	0.00044
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		<0.00100 DLA	<0.00250 DLA	<0.00100 DLA	0.00212	0.00199
Iron, total	7439-89-6	E420/VA	0.010	mg/L		42.8	19.8	14.3	12.1	0.242
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000558	0.00166	<0.000100 DLA	0.000587	0.000188
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0278	0.0378	0.0294	0.0029	0.0019
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		116	86.6	99.4	35.9	11.4
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		1.46	11.1	3.92	10.7	0.0614
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000804	0.00544	0.000656	0.00223	0.00470
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.00939	0.799	0.00219	0.0336	0.00314
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.100 DLA	<0.250 DLA	0.131	<0.100 DLA	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		54.2	76.9	25.7	6.50	2.05
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00765	0.00586	0.00159	0.00344	0.00114
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.000141	0.000913	0.000177	0.000152	0.00166
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		12.9	9.58	12.0	6.80	5.05
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		0.000020	0.000064	<0.000020 DLA	0.000048	0.000014
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		98.8	1340	120	43.1	3.67
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		4.30	3.52	2.16	0.604	0.364
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		523	1140	206	167	50.1
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		0.00040	<0.00100 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000020 DLA	<0.000050 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-001	GLG-2024-0000 1-002	GLG-2024-0000 1-003	GLG-2024-0000 1-004	GLG-2024-0000 1-006
					Client sampling date / time	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00
						YL2400658-001	YL2400658-002	YL2400658-003	YL2400658-004	YL2400658-005
						Result	Result	Result	Result	Result
Total Metals										
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00020 DLA	<0.00050 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00020 DLA	<0.00050 DLA	<0.00020 DLA	<0.00020 DLA	0.00045
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00060 DLA	<0.00150 DLA	0.00141 DLM	<0.00060 DLA	0.00240 DLM
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		0.00059	0.00087	<0.00020 DLA	<0.00020 DLA	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.00111	0.0116	0.0121	0.00148	0.00342
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00100 DLA	<0.00250 DLA	0.00132	<0.00100 DLA	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0659	3.04	<0.0060 DLA	0.0073	0.0085
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00040 DLA	<0.00180 DLM	0.00308	<0.00040 DLA	<0.00020
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		424	386	364	192	115
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		111	105	100	35.2	10.8
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		53.4	81.2	25.8	6.41	2.10
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		93.5	1540	116	40.8	3.41
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		1.45	<0.50	<0.50	0.60	<0.50
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	2.47	<0.50
Toluene	108-88-3	E611A/CG	0.50	µg/L		1.11	<0.50	<0.50	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		0.62	<0.50	<0.50	3.00	<0.50
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		<0.75	<0.75	<0.75	3.00	<0.75
BTEX, total	----	E611A/CG	1.2	µg/L		3.2	<1.2	<1.2	6.1	<1.2
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	<100	<100
F1-BTEX	----	EC580/CG	100	µg/L		<100	<100	<100	<100	<100
F2 (C10-C16)	----	E601/CG	100	µg/L		110	<100	<100	1180	<100
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	<250	<250	<250	<250
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	<250	<250	<250	<250
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	<400	<400	1180	<400
Hydrocarbons Surrogates										

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: GLG-2024-0000 1-001	GLG-2024-0000 1-002	GLG-2024-0000 1-003	GLG-2024-0000 1-004	GLG-2024-0000 1-006
Client sampling date / time					12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00
					YL2400658-001	YL2400658-002	YL2400658-003	YL2400658-004	YL2400658-005
					Result	Result	Result	Result	Result
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%	89.0	89.9	84.2	84.0	84.4
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%	84.7	96.0	81.7	74.4	86.1
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%	95.5	98.0	100	96.9	96.3
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%	104	108	108	104	105

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-0000 1-019	GLG-2024-0000 1-022	GLG-2024-0000 1-023	----	----
					Client sampling date / time	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400658-006	YL2400658-007	YL2400658-008	--------	--------
						Result	Result	Result	----	----
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		191	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		191	----	----	----	----
Conductivity	----	E100/VA	2.0	µS/cm		625	----	----	----	----
pH	----	E108/VA	0.10	pH units		8.29	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		411	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		1.7	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		322	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/CG	0.0050	mg/L		0.0066	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		0.81	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		2.73	----	----	----	----
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		12.1	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		2.74	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		0.0051	----	----	----	----
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		0.0167	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		0.0092	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/CG	0.0020	mg/L		0.0202	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		138	----	----	----	----
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/CG	0.50	mg/L		4.77	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0552	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		0.00405	----	----	----	----

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-019	GLG-2024-0000 1-022	GLG-2024-0000 1-023	----	----
					Client sampling date / time	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	----	----
						YL2400658-006	YL2400658-007	YL2400658-008	--------	--------
						Result	Result	Result	----	----
Total Metals										
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00410	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0316	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000020	mg/L		<0.000020	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.011	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.0000202	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		119	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.00042	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00204	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.224	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000180	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0018	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		11.1	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.0608	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.00473	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.00301	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		2.04	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00111	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.00195	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		5.18	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		3.75	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.367	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		51.1	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-0000 1-019	GLG-2024-0000 1-022	GLG-2024-0000 1-023	----	----
					Client sampling date / time	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400658-006	YL2400658-007	YL2400658-008	--------	--------
						Result	Result	Result	----	----
Total Metals										
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		0.00041	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		0.00220	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.00346	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0083	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		111	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		10.9	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		2.03	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		3.30	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	----	----	----	----
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Toluene	108-88-3	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		<0.75	<0.75	<0.75	----	----
BTEX, total	----	E611A/CG	1.2	µg/L		<1.2	<1.2	<1.2	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	----	----
F1-BTEX	----	EC580/CG	100	µg/L		<100	<100	<100	----	----
F2 (C10-C16)	----	E601/CG	100	µg/L		<100	<100	<100	----	----
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	<250	<250	----	----
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	<250	<250	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	<400	<400	----	----
Hydrocarbons Surrogates										

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00001-019	GLG-2024-00001-022	GLG-2024-00001-023	----	----
					Client sampling date / time	12-Jun-2024 00:00	12-Jun-2024 00:00	12-Jun-2024 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400658-006	YL2400658-007	YL2400658-008	--------	--------
						Result	Result	Result	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		85.7	87.5	84.6	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		87.9	126	121	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		95.7	76.2	75.2	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		103	94.4	93.5	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2400658**	Page	: 1 of 22
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 13-Jun-2024 11:00
PO	: ----	Issue Date	: 20-Jun-2024 16:57
C-O-C number	: ----		
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-001	E298	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-002	E298	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-003	E298	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-004	E298	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-006	E298	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-019	E298	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-001	E235.Cl	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-002	E235.Cl	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-003	E235.Cl	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-004	E235.Cl	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-006	E235.Cl	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-019	E235.Cl	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00001-001	E378-U	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	19-Jun-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00001-002	E378-U	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	19-Jun-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00001-003	E378-U	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	19-Jun-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00001-004	E378-U	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	19-Jun-2024	3 days	7 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00001-006	E378-U	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	19-Jun-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00001-019	E378-U	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	19-Jun-2024	3 days	7 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-001	E235.NO3-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-002	E235.NO3-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-003	E235.NO3-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-004	E235.NO3-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-006	E235.NO3-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-019	E235.NO3-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-001	E235.NO2-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-002	E235.NO2-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-003	E235.NO2-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-004	E235.NO2-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-006	E235.NO2-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-019	E235.NO2-L	12-Jun-2024	18-Jun-2024	3 days	6 days	× EHT	18-Jun-2024	3 days	6 days	× EHT
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-001	E235.SO4	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-002	E235.SO4	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-003	E235.SO4	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-004	E235.SO4	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-006	E235.SO4	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-019	E235.SO4	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-001	E372-U	12-Jun-2024	14-Jun-2024	28 days	3 days	✓	19-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-002	E372-U	12-Jun-2024	14-Jun-2024	28 days	3 days	✓	19-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-003	E372-U	12-Jun-2024	14-Jun-2024	28 days	3 days	✓	19-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-004	E372-U	12-Jun-2024	14-Jun-2024	28 days	3 days	✓	19-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-006	E372-U	12-Jun-2024	14-Jun-2024	28 days	3 days	✓	19-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-019	E372-U	12-Jun-2024	14-Jun-2024	28 days	3 days	✓	19-Jun-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-001	E421	12-Jun-2024	18-Jun-2024	180 days	7 days	✓	19-Jun-2024	180 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-002	E421	12-Jun-2024	18-Jun-2024	180 days	7 days	✓	19-Jun-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-003	E421	12-Jun-2024	18-Jun-2024	180 days	7 days	✓	19-Jun-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-004	E421	12-Jun-2024	18-Jun-2024	180 days	7 days	✓	19-Jun-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-006	E421	12-Jun-2024	18-Jun-2024	180 days	7 days	✓	19-Jun-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-019	E421	12-Jun-2024	18-Jun-2024	180 days	7 days	✓	19-Jun-2024	180 days	8 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00001-001	E581.F1	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00001-002	E581.F1	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00001-003	E581.F1	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00001-004	E581.F1	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00001-006	E581.F1	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00001-019	E581.F1	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00001-022	E581.F1	12-Jun-2024	16-Jun-2024	14 days	4 days	✓	16-Jun-2024	14 days	4 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00001-023	E581.F1	12-Jun-2024	16-Jun-2024	14 days	4 days	✓	16-Jun-2024	14 days	4 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-001	E601	12-Jun-2024	19-Jun-2024	14 days	7 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-002	E601	12-Jun-2024	19-Jun-2024	14 days	7 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-003	E601	12-Jun-2024	19-Jun-2024	14 days	7 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-004	E601	12-Jun-2024	19-Jun-2024	14 days	7 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-006	E601	12-Jun-2024	19-Jun-2024	14 days	7 days	✓	19-Jun-2024	40 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-019	E601	12-Jun-2024	19-Jun-2024	14 days	7 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-022	E601	12-Jun-2024	19-Jun-2024	14 days	7 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-023	E601	12-Jun-2024	19-Jun-2024	14 days	7 days	✓	19-Jun-2024	40 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-001	E355-L	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-002	E355-L	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-003	E355-L	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-004	E355-L	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-006	E355-L	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-019	E355-L	12-Jun-2024	18-Jun-2024	28 days	7 days	✓	18-Jun-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-001	E290	12-Jun-2024	18-Jun-2024	14 days	6 days	✓	18-Jun-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-002	E290	12-Jun-2024	18-Jun-2024	14 days	6 days	✓	18-Jun-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-003	E290	12-Jun-2024	18-Jun-2024	14 days	6 days	✓	18-Jun-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-004	E290	12-Jun-2024	18-Jun-2024	14 days	6 days	✓	18-Jun-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-006	E290	12-Jun-2024	18-Jun-2024	14 days	6 days	✓	18-Jun-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-019	E290	12-Jun-2024	18-Jun-2024	14 days	6 days	✓	18-Jun-2024	14 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-001	E100	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-002	E100	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-003	E100	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-004	E100	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-006	E100	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-019	E100	12-Jun-2024	18-Jun-2024	28 days	6 days	✓	18-Jun-2024	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-001	E108	12-Jun-2024	18-Jun-2024	0.25 hrs	151 hrs	× EHTR-FM	18-Jun-2024	0.25 hrs	156 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-002	E108	12-Jun-2024	18-Jun-2024	0.25 hrs	151 hrs	× EHTR-FM	18-Jun-2024	0.25 hrs	156 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-003	E108	12-Jun-2024	18-Jun-2024	0.25 hrs	151 hrs	× EHTR-FM	18-Jun-2024	0.25 hrs	156 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-004	E108	12-Jun-2024	18-Jun-2024	0.25 hrs	151 hrs	× EHTR-FM	18-Jun-2024	0.25 hrs	156 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-006	E108	12-Jun-2024	18-Jun-2024	0.25 hrs	151 hrs	× EHTR-FM	18-Jun-2024	0.25 hrs	156 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-019	E108	12-Jun-2024	18-Jun-2024	0.25 hrs	151 hrs	× EHTR-FM	18-Jun-2024	0.25 hrs	156 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-001	E162-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-002	E162-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-003	E162-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-004	E162-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-006	E162-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-019	E162-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00001-001	E160-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00001-002	E160-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00001-003	E160-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00001-004	E160-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00001-006	E160-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00001-019	E160-L	12-Jun-2024	----	----	----		18-Jun-2024	7 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved)										
GLG-2024-00001-001	E508	12-Jun-2024	19-Jun-2024	0 hrs	180 hrs	× UCP	19-Jun-2024	0 hrs	180 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved)										
GLG-2024-00001-002	E508	12-Jun-2024	19-Jun-2024	0 hrs	180 hrs	× UCP	19-Jun-2024	0 hrs	180 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved)										
GLG-2024-00001-003	E508	12-Jun-2024	19-Jun-2024	0 hrs	180 hrs	× UCP	19-Jun-2024	0 hrs	180 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved)										
GLG-2024-00001-004	E508	12-Jun-2024	19-Jun-2024	0 hrs	180 hrs	× UCP	19-Jun-2024	0 hrs	180 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved)										
GLG-2024-00001-006	E508	12-Jun-2024	19-Jun-2024	0 hrs	180 hrs	× UCP	19-Jun-2024	0 hrs	180 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved)										
GLG-2024-00001-019	E508	12-Jun-2024	19-Jun-2024	0 hrs	180 hrs	× UCP	19-Jun-2024	0 hrs	180 hrs	× UCP

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-001	E420	12-Jun-2024	18-Jun-2024	180 days	6 days	✓	18-Jun-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-002	E420	12-Jun-2024	18-Jun-2024	180 days	6 days	✓	18-Jun-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-003	E420	12-Jun-2024	18-Jun-2024	180 days	6 days	✓	18-Jun-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-004	E420	12-Jun-2024	18-Jun-2024	180 days	6 days	✓	18-Jun-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-006	E420	12-Jun-2024	18-Jun-2024	180 days	6 days	✓	18-Jun-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-019	E420	12-Jun-2024	18-Jun-2024	180 days	6 days	✓	18-Jun-2024	180 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00001-001	E611A	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00001-002	E611A	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00001-003	E611A	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00001-004	E611A	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00001-006	E611A	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00001-019	E611A	12-Jun-2024	15-Jun-2024	14 days	4 days	✓	15-Jun-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00001-022	E611A	12-Jun-2024	16-Jun-2024	14 days	4 days	✓	16-Jun-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00001-023	E611A	12-Jun-2024	16-Jun-2024	14 days	4 days	✓	16-Jun-2024	14 days	4 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1498964	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1500857	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1495905	2	31	6.4	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1495906	2	12	16.6	5.0	✓
Chloride in Water by IC	E235.Cl	1498967	1	19	5.2	5.0	✓
Conductivity in Water	E100	1498965	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1498545	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1498972	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1498969	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1498970	1	19	5.2	5.0	✓
pH by Meter	E108	1498963	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1498971	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1500788	1	6	16.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1502049	1	16	6.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1498144	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1500335	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1495242	1	13	7.6	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1498964	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1500857	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1495905	2	31	6.4	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1495906	2	12	16.6	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1500290	1	10	10.0	5.0	✓
Chloride in Water by IC	E235.Cl	1498967	1	19	5.2	5.0	✓
Conductivity in Water	E100	1498965	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1498545	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1498972	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1498969	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1498970	1	19	5.2	5.0	✓
pH by Meter	E108	1498963	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1498971	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1500788	1	6	16.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1502049	1	16	6.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1498144	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1500335	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1495242	1	13	7.6	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
TSS by Gravimetry (Low Level)	E160-L	1500790	1	6	16.6	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1498964	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1500857	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1495905	2	31	6.4	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1495906	2	12	16.6	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1500290	1	10	10.0	5.0	✓
Chloride in Water by IC	E235.Cl	1498967	1	19	5.2	5.0	✓
Conductivity in Water	E100	1498965	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1498545	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1498972	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1498969	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1498970	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1498971	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1500788	1	6	16.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1502049	1	16	6.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1498144	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1500335	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1495242	1	13	7.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1500790	1	6	16.6	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1500857	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1495905	2	31	6.4	5.0	✓
Chloride in Water by IC	E235.Cl	1498967	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1498545	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1498972	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1498969	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1498970	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1498971	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1502049	1	16	6.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1498144	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1500335	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1495242	1	13	7.6	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Calgary	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Vancouver	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Calgary	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Vancouver	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Nitrite (as N) converted to Nitrite (as NO2)	EC235.NO2A ALS Environmental - Vancouver	Water	Calculation	Nitrite by IC measured as N is converted to the NO2 form by calculation.
Nitrate (as N) converted to Nitrate (as NO3)	EC235.NO3A ALS Environmental - Vancouver	Water	Calculation	Nitrate by IC measured as N is converted to the NO3 form by calculation.
F1-BTEX	EC580 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Sum F1 to F4 (C6-C50)	EC581 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Calgary	Water		Preparation for Total Organic Carbon by Combustion

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Calgary	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Calgary	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **YL2400658**	Page	: 1 of 14
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 13-Jun-2024 11:00
PO	: ----	Date Analysis Commenced	: 14-Jun-2024
C-O-C number	: ----	Issue Date	: 20-Jun-2024 16:57
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
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Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1498963)											
FJ2401682-003	Anonymous	pH	----	E108	0.10	pH units	8.36	8.36	0.00%	4%	----
Physical Tests (QC Lot: 1498964)											
FJ2401682-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	121	121	0.248%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	3.0	3.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	1.5	1.5	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	124	124	0.242%	20%	----
Physical Tests (QC Lot: 1498965)											
FJ2401682-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	275	277	0.725%	10%	----
Physical Tests (QC Lot: 1500788)											
YL2400658-001	GLG-2024-00001-001	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	2440	2400	1.86%	20%	----
Anions and Nutrients (QC Lot: 1495242)											
VA24B3608-005	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	<0.0020	<0.0020	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1498967)											
FJ2401682-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1498969)											
FJ2401682-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1498970)											
FJ2401682-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1498971)											
FJ2401682-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	15.1	15.2	0.645%	20%	----
Anions and Nutrients (QC Lot: 1498972)											
FJ2401682-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1500857)											
VA24B3793-009	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.125	mg/L	6.01	6.12	1.80%	20%	----
Organic / Inorganic Carbon (QC Lot: 1500335)											
CG2408017-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.90	2.20	0.31	Diff <2x LOR	----
Total Metals (QC Lot: 1498144)											
FJ2401672-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.313	0.319	1.94%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1498144) - continued											
FJ2401672-001	Anonymous	Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00935	0.0100	7.13%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00052	0.00051	0.00001	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.134	0.138	2.75%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	0.000031	0.000041	0.000010	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	0.000083	0.000080	0.000004	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.092	0.094	0.002	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000872	0.0000889	1.96%	20%	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	85.1	82.7	2.83%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000109	0.000111	1.70%	20%	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00116	0.00170	0.00055	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00064	0.00061	0.00003	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00237	0.00235	0.00002	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.485	0.519	6.88%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000455	0.000466	0.000011	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0199	0.0204	2.49%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	25.7	25.1	2.06%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.163	0.160	1.92%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00396	0.00397	0.0958%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00302	0.00302	0.000004	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	0.056	0.006	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	4.20	4.23	0.722%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00206	0.00203	1.62%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000181	0.000142	0.000038	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	5.52	6.40	14.7%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000018	0.000018	0.0000001	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	29.4	29.1	0.831%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.322	0.330	2.64%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	18.0	17.8	0.762%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000019	0.000023	0.000004	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	0.00010	0.000004	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	0.00023	0.00026	0.00004	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00360	mg/L	<0.00360	<0.00360	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1498144) - continued											
FJ2401672-001	Anonymous	Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00231	0.00232	0.732%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00186	0.00186	0.000001	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0151	0.0151	0.00007	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
Total Metals (QC Lot: 1502049)											
FJ2401699-017	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1498545)											
VA24B3588-001	Anonymous	Calcium, dissolved	7440-70-2	E421	1.00	mg/L	685	684	0.154%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.100	mg/L	210	203	3.26%	20%	----
		Potassium, dissolved	7440-09-7	E421	1.00	mg/L	8.84	8.19	0.658	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	1.00	mg/L	30.9	27.7	10.9%	20%	----
Volatile Organic Compounds (QC Lot: 1495905)											
VA24B3445-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1496607)											
RG2400906-002	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1495906)											
YL2400658-001	GLG-2024-00001-001	F1 (C6-C10)	----	E581.F1	100	µg/L	<100	<100	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1496606)											
RG2400906-002	Anonymous	F1 (C6-C10)	----	E581.F1	100	µg/L	<100	<100	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1498964)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1498965)						
Conductivity	----	E100	1	µS/cm	1.4	----
Physical Tests (QCLot: 1500788)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1500790)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1495242)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1498967)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1498969)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1498970)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1498971)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1498972)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1500857)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1500335)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1498144)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1498144) - continued						
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1502049)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1498545)						
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Volatile Organic Compounds (QCLot: 1495905)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Volatile Organic Compounds (QCLot: 1496607)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1495906)						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1496606)						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1500290)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1498963)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1498964)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	93.4	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	108	85.0	115	----
Physical Tests (QCLot: 1498965)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	98.6	90.0	110	----
Physical Tests (QCLot: 1500788)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	95.7	85.0	115	----
Physical Tests (QCLot: 1500790)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	98.3	85.0	115	----
Anions and Nutrients (QCLot: 1495242)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	103	80.0	120	----
Anions and Nutrients (QCLot: 1498967)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.5	90.0	110	----
Anions and Nutrients (QCLot: 1498969)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 1498970)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1498971)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1498972)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	94.0	80.0	120	----
Anions and Nutrients (QCLot: 1500857)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.6	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1500335)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	95.7	80.0	120	----
Total Metals (QCLot: 1498144)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	109	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	105	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1498144) - continued									
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	111	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	108	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	112	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	106	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	107	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	105	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	106	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	108	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	107	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	108	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	103	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	108	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	106	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	109	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	107	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	110	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	115	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	107	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	104	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	108	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	97.8	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	115	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	104	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	103	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	107	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	104	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	106	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	108	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	108	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	105	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	109	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	106	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1498144) - continued									
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.6	80.0	120	----
Total Metals (QCLot: 1502049)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	97.6	80.0	120	----
Dissolved Metals (QCLot: 1498545)									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	100	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	103	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	97.8	80.0	120	----
Volatile Organic Compounds (QCLot: 1495905)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	113	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	118	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	115	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	119	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	119	70.0	130	----
Volatile Organic Compounds (QCLot: 1496607)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	87.6	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	90.6	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	85.9	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	90.0	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	90.3	70.0	130	----
Hydrocarbons (QCLot: 1495906)									
F1 (C6-C10)	----	E581.F1	100	µg/L	2480 µg/L	99.5	70.0	130	----
Hydrocarbons (QCLot: 1496606)									
F1 (C6-C10)	----	E581.F1	100	µg/L	2480 µg/L	129	70.0	130	----
Hydrocarbons (QCLot: 1500290)									
F2 (C10-C16)	----	E601	100	µg/L	3830 µg/L	98.8	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7950 µg/L	97.4	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	4220 µg/L	99.9	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1495242)										
VA24B3608-006	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0457 mg/L	0.05 mg/L	91.4	70.0	130	----
Anions and Nutrients (QCLot: 1498967)										
FJ2401682-002	Anonymous	Chloride	16887-00-6	E235.Cl	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1498969)										
FJ2401682-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.52 mg/L	2.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1498970)										
FJ2401682-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.505 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1498971)										
FJ2401682-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1498972)										
FJ2401682-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0282 mg/L	0.03 mg/L	94.2	70.0	130	----
Anions and Nutrients (QCLot: 1500857)										
VA24B3793-010	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1500335)										
CG2408017-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.26 mg/L	5 mg/L	105	70.0	130	----
Total Metals (QCLot: 1498144)										
FJ2401681-005	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0193 mg/L	0.02 mg/L	96.7	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00983 mg/L	0.01 mg/L	98.3	70.0	130	----
		Boron, total	7440-42-8	E420	0.098 mg/L	0.1 mg/L	98.2	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00393 mg/L	0.004 mg/L	98.2	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0100 mg/L	0.01 mg/L	100	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0395 mg/L	0.04 mg/L	98.8	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0195 mg/L	0.02 mg/L	97.5	70.0	130	----
		Copper, total	7440-50-8	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Iron, total	7439-89-6	E420	1.72 mg/L	2 mg/L	86.2	70.0	130	----
		Lead, total	7439-92-1	E420	0.0190 mg/L	0.02 mg/L	95.3	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0991 mg/L	0.1 mg/L	99.1	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	ND mg/L	----	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1498144) - continued										
FJ2401681-005	Anonymous	Nickel, total	7440-02-0	E420	0.0387 mg/L	0.04 mg/L	96.7	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.4 mg/L	10 mg/L	104	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0402 mg/L	0.04 mg/L	101	70.0	130	----
		Silicon, total	7440-21-3	E420	9.39 mg/L	10 mg/L	93.9	70.0	130	----
		Silver, total	7440-22-4	E420	0.00390 mg/L	0.004 mg/L	97.4	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0396 mg/L	0.04 mg/L	98.9	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00377 mg/L	0.004 mg/L	94.4	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0182 mg/L	0.02 mg/L	90.9	70.0	130	----
		Tin, total	7440-31-5	E420	0.0198 mg/L	0.02 mg/L	99.2	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0391 mg/L	0.04 mg/L	97.9	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00370 mg/L	0.004 mg/L	92.4	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.103 mg/L	0.1 mg/L	103	70.0	130	----
		Zinc, total	7440-66-6	E420	0.394 mg/L	0.4 mg/L	98.4	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0400 mg/L	0.04 mg/L	100.0	70.0	130	----
Total Metals (QCLot: 1502049)										
VA24B3720-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000957 mg/L	0 mg/L	95.7	70.0	130	----
Dissolved Metals (QCLot: 1498545)										
VA24B3588-002	Anonymous	Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	75.4 mg/L	80 mg/L	94.2	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
Volatile Organic Compounds (QCLot: 1495905)										
VA24B3445-001	Anonymous	Benzene	71-43-2	E611A	113 µg/L	100 µg/L	113	70.0	130	----
		Ethylbenzene	100-41-4	E611A	119 µg/L	100 µg/L	119	70.0	130	----
		Toluene	108-88-3	E611A	116 µg/L	100 µg/L	116	70.0	130	----
		Xylene, m+p-	179601-23-1	E611A	239 µg/L	200 µg/L	120	70.0	130	----
		Xylene, o-	95-47-6	E611A	118 µg/L	100 µg/L	118	70.0	130	----
Volatile Organic Compounds (QCLot: 1496607)										
RG2400906-002	Anonymous	Benzene	71-43-2	E611A	90.2 µg/L	100 µg/L	90.2	70.0	130	----
		Ethylbenzene	100-41-4	E611A	93.6 µg/L	100 µg/L	93.6	70.0	130	----
		Toluene	108-88-3	E611A	91.2 µg/L	100 µg/L	91.2	70.0	130	----
		Xylene, m+p-	179601-23-1	E611A	185 µg/L	200 µg/L	92.6	70.0	130	----
		Xylene, o-	95-47-6	E611A	93.0 µg/L	100 µg/L	93.0	70.0	130	----

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page 1 of 1

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Stantec Consulting Ltd.	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Natalie Normandeau	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	4910 53 St, PO Box 1777 Yellowknife, NT X1A 2P4	☐ Criteria on Report - provide details below if box checked Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	(204) 509-9864 (867) 920-2882	Email 1 or Fax natalie.normandeau@stantec.com Email 2 steve.hannington@stantec.com	Specify Date Required for E2,E or P:

Invoice To		Invoice Distribution	Analysis Request
	Same as Report To ☐ Yes ☑ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report ☐ Yes ☑ No		
Company:	Stantec Consulting Ltd.	Email 1 or Fax SAPinvoices@stantec.com	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	YL24-STAC100-003	Approver ID:	Cost Center:
Job #:	123515016	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler:

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Groundwater Package	Surface Water Package SNP	Q1/QC										Number of Containers
	GLG-2024-00001-001	12-JUN-24		Water	✓												
	GLG-2024-00001-002	12-JUN-24		Water	✓												
	GLG-2024-00001-003	12-JUN-24		Water	✓												
	GLG-2024-00001-004	12-JUN-24		Water	✓												
	GLG-2024-00001-006	12-JUN-24		Water	✓												
	GLG-2024-00001-019	12-JUN-24		Water	✓												
	GLG-2024-00001-022	12-JUN-24		Water			✓										
	GLG-2024-00001-023	12-JUN-24		Water			✓										

Environmental Division
Yellowknife
Work Order Reference
YL2400658

Telephone : +1 867 873 5593

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐		SIF Observations Yes ☐ No ☐	
Ice packs Yes ☐ No ☐		Custody seal intact Yes ☐ No ☐	
Cooling Initiated ☐			
INITIAL COOLER TEMPERATURES °C		FINAL COOLER TEMPERATURES °C	
7.1			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
	13-JUN-24	06:30		June 13/24	11:00			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2400666**	Page	: 1 of 10
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 13-Jun-2024 15:56
PO	: ----	Date Analysis Commenced	: 18-Jun-2024
C-O-C number	: ----	Issue Date	: 24-Jun-2024 10:21
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 6		
No. of samples analysed	: 6		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Elke Tabora	Lab Analyst	Inorganics, Calgary, Alberta
Erin Sanchez		Metals, Burnaby, British Columbia
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Jyotsnarani Devi	Laboratory Analyst	Organics, Calgary, Alberta
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Nguyen Tran	Laboratory Analyst	Organics, Calgary, Alberta
Owen Cheng		Metals, Burnaby, British Columbia
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	*Comment*
YL2400666-001	GLG-2024-00001-015	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400666-002	GLG-2024-00001-016	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400666-003	GLG-2024-00001-009	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400666-004	GLG-2024-00001-020	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400666-005	GLG-2024-00001-014	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400666-006	GLG-2024-00001-017	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-015	GLG-2024-0000 1-016	GLG-2024-0000 1-009	GLG-2024-0000 1-020	GLG-2024-0000 1-014
					Client sampling date / time	13-Jun-2024 09:52	13-Jun-2024 10:57	13-Jun-2024 11:52	13-Jun-2024 11:52	13-Jun-2024 12:38
						YL2400666-001	YL2400666-002	YL2400666-003	YL2400666-004	YL2400666-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		67.5	39.7	40.8	40.3	42.0
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		67.5	39.7	40.8	40.3	42.0
Conductivity	----	E100/VA	2.0	µS/cm		184	100	103	103	104
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		89.9	43.2	44.9	44.3	45.7
pH	----	E108/VA	0.10	pH units		7.75	7.88	7.89	7.91	7.88
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		156	60.8	62.5	54.5	54.8
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		1.1	<1.0	<1.0	<1.0	<1.0
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		86.2	42.7	41.8	42.2	44.8
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/CG	0.0050	mg/L		0.0151	<0.0050	<0.0050	<0.0050	<0.0050
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		<0.50	1.34	1.35	1.34	1.39
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		<0.022	<0.022	<0.022	<0.022	<0.022
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		<0.0051	<0.0051	<0.0051	<0.0051	<0.0051
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus, total	7723-14-0	E372-U/CG	0.0020	mg/L		0.0204	0.0071	0.0091	0.0064	0.0083
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		20.1	7.18	7.60	7.56	7.45
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/CG	0.50	mg/L		25.9	3.61	3.89	3.76	3.18
Total Metals										

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-015	GLG-2024-0000 1-016	GLG-2024-0000 1-009	GLG-2024-0000 1-020	GLG-2024-0000 1-014
					Client sampling date / time	13-Jun-2024 09:52	13-Jun-2024 10:57	13-Jun-2024 11:52	13-Jun-2024 11:52	13-Jun-2024 12:38
						YL2400666-001	YL2400666-002	YL2400666-003	YL2400666-004	YL2400666-005
						Result	Result	Result	Result	Result
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0374	0.0094	0.0151	0.0136	0.0102
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00298	0.00029	0.00052	0.00054	0.00028
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0160	0.00449	0.00450	0.00443	0.00467
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.013	<0.010	<0.010	<0.010	<0.010
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		23.6	12.3	12.7	12.8	12.9
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000023	<0.000010	<0.000010	<0.000010	<0.000010
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.00154	<0.00010	<0.00010	<0.00010	<0.00010
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		<0.00050	0.00052	0.00065	0.00065	0.00056
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.093	<0.010	0.012	0.011	<0.010
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0074	0.0020	0.0020	0.0020	0.0021
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		7.52	3.04	3.20	2.99	3.28
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.0778	0.00318	0.00244	0.00252	0.00269
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		<0.000050	0.000083	0.000144	0.000146	0.000090
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.0169	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		2.05	1.56	1.56	1.58	1.62
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00306	0.00207	0.00200	0.00191	0.00213
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		0.46	0.16	0.18	0.17	0.20
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		4.45	2.46	2.48	2.54	2.59
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0915	0.0445	0.0465	0.0451	0.0467
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		7.98	2.61	2.81	2.70	2.90

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-015	GLG-2024-0000 1-016	GLG-2024-0000 1-009	GLG-2024-0000 1-020	GLG-2024-0000 1-014
					Client sampling date / time	13-Jun-2024 09:52	13-Jun-2024 10:57	13-Jun-2024 11:52	13-Jun-2024 11:52	13-Jun-2024 12:38
						YL2400666-001	YL2400666-002	YL2400666-003	YL2400666-004	YL2400666-005
						Result	Result	Result	Result	Result
Total Metals										
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		0.00035	<0.00030	0.00040	0.00034	0.00034
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000029	0.000090	0.000156	0.000154	0.000095
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		23.0	12.2	11.9	12.1	12.6
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		6.99	2.98	2.94	2.90	3.24
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.95	1.55	1.50	1.49	1.66
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		3.90	2.26	2.21	2.19	2.34
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	108-88-3	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		<0.75	<0.75	<0.75	<0.75	<0.75
BTEX, total	----	E611A/CG	1.2	µg/L		<1.2	<1.2	<1.2	<1.2	<1.2
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	<100	<100
F1-BTEX	----	EC580/CG	100	µg/L		<100	<100	<100	<100	<100
F2 (C10-C16)	----	E601/CG	100	µg/L		<100	<100	<100	<100	<100
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	<250	<250	<250	<250
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	<250	<250	<250	<250

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-0000 1-015	GLG-2024-0000 1-016	GLG-2024-0000 1-009	GLG-2024-0000 1-020	GLG-2024-0000 1-014
					Client sampling date / time	13-Jun-2024 09:52	13-Jun-2024 10:57	13-Jun-2024 11:52	13-Jun-2024 11:52	13-Jun-2024 12:38
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400666-001	YL2400666-002	YL2400666-003	YL2400666-004	YL2400666-005
						Result	Result	Result	Result	Result
Hydrocarbons										
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	<400	<400	<400	<400
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		78.0	86.0	88.6	87.2	86.3
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		89.1	115	123	117	115
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		71.5	75.5	75.8	81.6	76.5
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		95.4	102	95.9	96.5	97.5

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: Water (Matrix: Water)									
				Client sample ID	GLG-2024-0000 1-017	----	----	----	----
				Client sampling date / time	13-Jun-2024 13:33	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2400666-006	--------	--------	--------	--------
					Result	----	----	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	41.8	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	41.8	----	----	----	----
Conductivity	----	E100/VA	2.0	µS/cm	105	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	45.1	----	----	----	----
pH	----	E108/VA	0.10	pH units	7.89	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	55.2	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	44.4	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/CG	0.0050	mg/L	<0.0050	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	1.40	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0050	----	----	----	----
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L	<0.022	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0051	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	----	----	----	----
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L	<0.0033	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L	<0.0010	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/CG	0.0020	mg/L	0.0077	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	7.61	----	----	----	----
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	E355-L/CG	0.50	mg/L	2.96	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0134	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-0000 1-017	----	----	----	----
					Client sampling date / time	13-Jun-2024 13:33	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400666-006	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00027	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00476	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		12.8	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00058	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.014	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0021	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		3.20	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00271	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000088	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.63	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00216	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		0.18	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		2.62	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0450	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		2.80	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-0000 1-017	----	----	----	----
					Client sampling date / time	13-Jun-2024 13:33	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400666-006	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		0.00032	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000093	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		12.6	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		3.15	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.65	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		2.35	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	----	----	----	----
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		<0.50	----	----	----	----
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	----	----	----	----
Toluene	108-88-3	E611A/CG	0.50	µg/L		<0.50	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		<0.50	----	----	----	----
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	----	----	----	----
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		<0.75	----	----	----	----
BTEX, total	----	E611A/CG	1.2	µg/L		<1.2	----	----	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	----	----	----	----
F1-BTEX	----	EC580/CG	100	µg/L		<100	----	----	----	----
F2 (C10-C16)	----	E601/CG	100	µg/L		<100	----	----	----	----
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	----	----	----	----
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	----	----	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)									
					Client sample ID	GLG-2024-00001-017	----	----	----	----
					Client sampling date / time	13-Jun-2024 13:33	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2400666-006	--------	--------	--------	--------	
					Result	----	----	----	----	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%	91.7	----	----	----	----	
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%	99.4	----	----	----	----	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%	73.8	----	----	----	----	
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%	96.3	----	----	----	----	

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2400666**	Page	: 1 of 22
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 13-Jun-2024 15:56
PO	: ----	Issue Date	: 24-Jun-2024 10:22
C-O-C number	: ----		
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 6		
No. of samples analysed	: 6		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-009	E298	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-014	E298	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-015	E298	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-016	E298	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-017	E298	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-020	E298	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-009	E235.Cl	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-014	E235.Cl	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-015	E235.Cl	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-016	E235.Cl	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-017	E235.Cl	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-020	E235.Cl	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00001-014	E378-U	13-Jun-2024	18-Jun-2024	3 days	4 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00001-017	E378-U	13-Jun-2024	18-Jun-2024	3 days	4 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00001-009	E378-U	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00001-015	E378-U	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00001-016	E378-U	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00001-020	E378-U	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-017	E235.NO3-L	13-Jun-2024	18-Jun-2024	3 days	4 days	× EHT	18-Jun-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-014	E235.NO3-L	13-Jun-2024	18-Jun-2024	3 days	4 days	× EHT	18-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-009	E235.NO3-L	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	18-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-015	E235.NO3-L	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	18-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-016	E235.NO3-L	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	18-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-020	E235.NO3-L	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	18-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-017	E235.NO2-L	13-Jun-2024	18-Jun-2024	3 days	4 days	× EHT	18-Jun-2024	3 days	4 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-014	E235.NO2-L	13-Jun-2024	18-Jun-2024	3 days	4 days	× EHT	18-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-009	E235.NO2-L	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	18-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-015	E235.NO2-L	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	18-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-016	E235.NO2-L	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	18-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-020	E235.NO2-L	13-Jun-2024	18-Jun-2024	3 days	5 days	× EHT	18-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-009	E235.SO4	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-014	E235.SO4	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-015	E235.SO4	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-016	E235.SO4	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00001-017	E235.SO4	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00001-020	E235.SO4	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00001-009	E372-U	13-Jun-2024	19-Jun-2024	28 days	6 days	✓	19-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00001-014	E372-U	13-Jun-2024	19-Jun-2024	28 days	6 days	✓	19-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00001-015	E372-U	13-Jun-2024	19-Jun-2024	28 days	6 days	✓	19-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00001-016	E372-U	13-Jun-2024	19-Jun-2024	28 days	6 days	✓	19-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00001-017	E372-U	13-Jun-2024	19-Jun-2024	28 days	6 days	✓	19-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00001-020	E372-U	13-Jun-2024	19-Jun-2024	28 days	6 days	✓	19-Jun-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
GLG-2024-00001-009	E421	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	19-Jun-2024	180 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-014	E421	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	19-Jun-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-015	E421	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	19-Jun-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-016	E421	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	19-Jun-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-017	E421	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	19-Jun-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-020	E421	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	19-Jun-2024	180 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-009	E581.F1	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-014	E581.F1	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-015	E581.F1	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-016	E581.F1	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-017	E581.F1	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-020	E581.F1	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-009	E601	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-014	E601	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-015	E601	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-016	E601	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-017	E601	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-020	E601	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	40 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-009	E355-L	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-014	E355-L	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-015	E355-L	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-016	E355-L	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-017	E355-L	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-020	E355-L	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-009	E290	13-Jun-2024	18-Jun-2024	14 days	5 days	✓	18-Jun-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-014	E290	13-Jun-2024	18-Jun-2024	14 days	5 days	✓	18-Jun-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-015	E290	13-Jun-2024	18-Jun-2024	14 days	5 days	✓	18-Jun-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-016	E290	13-Jun-2024	18-Jun-2024	14 days	5 days	✓	18-Jun-2024	14 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-017	E290	13-Jun-2024	18-Jun-2024	14 days	5 days	✓	18-Jun-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-020	E290	13-Jun-2024	18-Jun-2024	14 days	5 days	✓	18-Jun-2024	14 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-009	E100	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-014	E100	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-015	E100	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-016	E100	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-017	E100	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-020	E100	13-Jun-2024	18-Jun-2024	28 days	5 days	✓	18-Jun-2024	28 days	5 days	✓
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-017	E108	13-Jun-2024	18-Jun-2024	0.25 hrs	119 hrs	× EHTR-FM	18-Jun-2024	0.25 hrs	122 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: ✗ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-009	E108	13-Jun-2024	18-Jun-2024	0.25 hrs	120 hrs	✗ EHTR-FM	18-Jun-2024	0.25 hrs	123 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-014	E108	13-Jun-2024	18-Jun-2024	0.25 hrs	120 hrs	✗ EHTR-FM	18-Jun-2024	0.25 hrs	123 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-020	E108	13-Jun-2024	18-Jun-2024	0.25 hrs	120 hrs	✗ EHTR-FM	18-Jun-2024	0.25 hrs	123 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-016	E108	13-Jun-2024	18-Jun-2024	0.25 hrs	121 hrs	✗ EHTR-FM	18-Jun-2024	0.25 hrs	124 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-015	E108	13-Jun-2024	18-Jun-2024	0.25 hrs	122 hrs	✗ EHTR-FM	18-Jun-2024	0.25 hrs	125 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-009	E162-L	13-Jun-2024	----	----	----		19-Jun-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-014	E162-L	13-Jun-2024	----	----	----		19-Jun-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-015	E162-L	13-Jun-2024	----	----	----		19-Jun-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-016	E162-L	13-Jun-2024	----	----	----		19-Jun-2024	7 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-017	E162-L	13-Jun-2024	----	----	----		19-Jun-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-020	E162-L	13-Jun-2024	----	----	----		19-Jun-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-009	E160-L	13-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-014	E160-L	13-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-016	E160-L	13-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-017	E160-L	13-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-020	E160-L	13-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-015	E160-L	13-Jun-2024	----	----	----		21-Jun-2024	7 days	8 days	× EHT
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-017	E508	13-Jun-2024	19-Jun-2024	0 hrs	143 hrs	× UCP	19-Jun-2024	0 hrs	143 hrs	× UCP

Matrix: **Water**

Evaluation: ✗ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-009	E508	13-Jun-2024	19-Jun-2024	0 hrs	144 hrs	✗ UCP	19-Jun-2024	0 hrs	144 hrs	✗ UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-014	E508	13-Jun-2024	19-Jun-2024	0 hrs	144 hrs	✗ UCP	19-Jun-2024	0 hrs	144 hrs	✗ UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-020	E508	13-Jun-2024	19-Jun-2024	0 hrs	144 hrs	✗ UCP	19-Jun-2024	0 hrs	144 hrs	✗ UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-016	E508	13-Jun-2024	19-Jun-2024	0 hrs	145 hrs	✗ UCP	19-Jun-2024	0 hrs	145 hrs	✗ UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-015	E508	13-Jun-2024	19-Jun-2024	0 hrs	146 hrs	✗ UCP	19-Jun-2024	0 hrs	146 hrs	✗ UCP
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-009	E420	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	18-Jun-2024	180 days	5 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-014	E420	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	18-Jun-2024	180 days	5 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-015	E420	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	18-Jun-2024	180 days	5 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-016	E420	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	18-Jun-2024	180 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-017	E420	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	18-Jun-2024	180 days	5 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-020	E420	13-Jun-2024	18-Jun-2024	180 days	5 days	✓	18-Jun-2024	180 days	5 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-009	E611A	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-014	E611A	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-015	E611A	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-016	E611A	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-017	E611A	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-020	E611A	13-Jun-2024	19-Jun-2024	14 days	6 days	✓	19-Jun-2024	14 days	6 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1499396	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1500899	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1501390	1	13	7.6	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1501391	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1499399	1	19	5.2	5.0	✓
Conductivity in Water	E100	1499397	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1498545	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1499413	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1499401	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1499402	1	20	5.0	5.0	✓
pH by Meter	E108	1499395	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1499403	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1501912	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1502049	2	20	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1498144	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1500335	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1499577	1	12	8.3	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1499396	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1500899	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1501390	1	13	7.6	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1501391	1	13	7.6	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1501854	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1499399	1	19	5.2	5.0	✓
Conductivity in Water	E100	1499397	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1498545	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1499413	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1499401	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1499402	1	20	5.0	5.0	✓
pH by Meter	E108	1499395	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1499403	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1501912	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1502049	2	20	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1498144	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1500335	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1499577	1	12	8.3	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
TSS by Gravimetry (Low Level)	E160-L	1501960	1	19	5.2	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1499396	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1500899	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1501390	1	13	7.6	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1501391	1	13	7.6	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1501854	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1499399	1	19	5.2	5.0	✓
Conductivity in Water	E100	1499397	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1498545	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1499413	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1499401	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1499402	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1499403	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1501912	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1502049	2	20	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1498144	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1500335	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1499577	1	12	8.3	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1501960	1	19	5.2	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1500899	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1501390	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1499399	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1498545	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1499413	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1499401	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1499402	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1499403	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1502049	2	20	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1498144	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1500335	1	19	5.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1499577	1	12	8.3	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Calgary	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Vancouver	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Calgary	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Vancouver	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Nitrite (as N) converted to Nitrite (as NO2)	EC235.NO2A ALS Environmental - Vancouver	Water	Calculation	Nitrite by IC measured as N is converted to the NO2 form by calculation.
Nitrate (as N) converted to Nitrate (as NO3)	EC235.NO3A ALS Environmental - Vancouver	Water	Calculation	Nitrate by IC measured as N is converted to the NO3 form by calculation.
F1-BTEX	EC580 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Sum F1 to F4 (C6-C50)	EC581 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Calgary	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Calgary	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Calgary	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **YL2400666**	Page	: 1 of 13
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 13-Jun-2024 15:56
PO	: ----	Date Analysis Commenced	: 18-Jun-2024
C-O-C number	: ----	Issue Date	: 24-Jun-2024 10:21
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 6		
No. of samples analysed	: 6		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Elke Tabora	Lab Analyst	Calgary Inorganics, Calgary, Alberta
Erin Sanchez		Vancouver Metals, Burnaby, British Columbia
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
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Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia
Nguyen Tran	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1499395)											
YL2400659-002	Anonymous	pH	----	E108	0.10	pH units	9.20	9.21	0.109%	4%	----
Physical Tests (QC Lot: 1499396)											
YL2400659-002	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	64.6	64.0	0.942%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	19.4	19.8	2.06%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	9.7	9.9	0.2	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	2.0	mg/L	84.0	83.8	0.241%	20%	----
Physical Tests (QC Lot: 1499397)											
YL2400659-002	Anonymous	Conductivity	----	E100	2.0	µS/cm	284	285	0.351%	10%	----
Physical Tests (QC Lot: 1501912)											
VA24B4178-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	12.0	mg/L	559	555	0.862%	20%	----
Anions and Nutrients (QC Lot: 1499399)											
FJ2401691-001	Anonymous	Chloride	16887-00-6	E235.Cl	2.50	mg/L	<2.50	<2.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1499401)											
FJ2401691-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	1.07	1.08	0.264%	20%	----
Anions and Nutrients (QC Lot: 1499402)											
FJ2401691-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1499403)											
FJ2401691-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	1.50	mg/L	129	129	0.317%	20%	----
Anions and Nutrients (QC Lot: 1499413)											
FJ2401691-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1499577)											
VA24B3869-003	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0209	0.0208	0.432%	20%	----
Anions and Nutrients (QC Lot: 1500899)											
VA24B3582-008	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0061	0.0051	0.0010	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1500335)											
CG2408017-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.90	2.20	0.31	Diff <2x LOR	----
Total Metals (QC Lot: 1498144)											
FJ2401672-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.313	0.319	1.94%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1498144) - continued											
FJ2401672-001	Anonymous	Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00935	0.0100	7.13%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00052	0.00051	0.00001	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.134	0.138	2.75%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	0.000031	0.000041	0.000010	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	0.000083	0.000080	0.000004	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.092	0.094	0.002	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000872	0.0000889	1.96%	20%	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	85.1	82.7	2.83%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000109	0.000111	1.70%	20%	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00116	0.00170	0.00055	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00064	0.00061	0.00003	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00237	0.00235	0.00002	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.485	0.519	6.88%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000455	0.000466	0.000011	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0199	0.0204	2.49%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	25.7	25.1	2.06%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.163	0.160	1.92%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00396	0.00397	0.0958%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00302	0.00302	0.000004	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	0.056	0.006	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	4.20	4.23	0.722%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00206	0.00203	1.62%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000181	0.000142	0.000038	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	5.52	6.40	14.7%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000018	0.000018	0.0000001	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	29.4	29.1	0.831%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.322	0.330	2.64%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	18.0	17.8	0.762%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000019	0.000023	0.000004	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	0.00010	0.000004	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	0.00023	0.00026	0.00004	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00360	mg/L	<0.00360	<0.00360	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1498144) - continued											
FJ2401672-001	Anonymous	Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00231	0.00232	0.732%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00186	0.00186	0.000001	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0151	0.0151	0.00007	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
Total Metals (QC Lot: 1502049)											
FJ2401699-017	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1502050)											
YL2400666-003	GLG-2024-00001-009	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1498545)											
VA24B3588-001	Anonymous	Calcium, dissolved	7440-70-2	E421	1.00	mg/L	685	684	0.154%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.100	mg/L	210	203	3.26%	20%	----
		Potassium, dissolved	7440-09-7	E421	1.00	mg/L	8.84	8.19	0.658	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	1.00	mg/L	30.9	27.7	10.9%	20%	----
Volatile Organic Compounds (QC Lot: 1501390)											
CG2408136-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.00040 mg/L	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.00030 mg/L	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1501391)											
CG2408136-001	Anonymous	F1 (C6-C10)	----	E581.F1	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1499396)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1499397)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1501912)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1501960)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1499399)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1499401)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1499402)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1499403)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1499413)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1499577)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1500899)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1500335)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1498144)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1498144) - continued						
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1502049)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1502050)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1498545)						
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Volatile Organic Compounds (QCLot: 1501390)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1501391)						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1501854)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1499395)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1499396)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	105	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	109	85.0	115	----
Physical Tests (QCLot: 1499397)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	102	90.0	110	----
Physical Tests (QCLot: 1501912)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	98.0	85.0	115	----
Physical Tests (QCLot: 1501960)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	89.5	85.0	115	----
Anions and Nutrients (QCLot: 1499399)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1499401)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1499402)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	99.3	90.0	110	----
Anions and Nutrients (QCLot: 1499403)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1499413)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	93.9	80.0	120	----
Anions and Nutrients (QCLot: 1499577)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	101	80.0	120	----
Anions and Nutrients (QCLot: 1500899)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1500335)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	95.7	80.0	120	----
Total Metals (QCLot: 1498144)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	109	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	105	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1498144) - continued									
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	111	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	108	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	112	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	106	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	107	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	105	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	106	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	108	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	107	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	108	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	103	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	108	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	106	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	109	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	107	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	110	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	115	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	107	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	104	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	108	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	97.8	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	115	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	104	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	103	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	107	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	104	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	106	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	108	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	108	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	105	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	109	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	106	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1498144) - continued									
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.6	80.0	120	----
Total Metals (QCLot: 1502049)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	97.6	80.0	120	----
Total Metals (QCLot: 1502050)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	96.2	80.0	120	----
Dissolved Metals (QCLot: 1498545)									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	100	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	103	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	97.8	80.0	120	----
Volatile Organic Compounds (QCLot: 1501390)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	104	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	108	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	106	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	107	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	105	70.0	130	----
Hydrocarbons (QCLot: 1501391)									
F1 (C6-C10)	----	E581.F1	100	µg/L	2480 µg/L	114	70.0	130	----
Hydrocarbons (QCLot: 1501854)									
F2 (C10-C16)	----	E601	100	µg/L	3830 µg/L	94.5	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7950 µg/L	91.5	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	4220 µg/L	93.1	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1499399)										
FJ2401691-002	Anonymous	Chloride	16887-00-6	E235.Cl	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1499401)										
FJ2401691-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.53 mg/L	2.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1499402)										
FJ2401691-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.503 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1499403)										
FJ2401691-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	98.8 mg/L	100 mg/L	98.8	75.0	125	----
Anions and Nutrients (QCLot: 1499413)										
FJ2401691-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0289 mg/L	0.03 mg/L	96.4	70.0	130	----
Anions and Nutrients (QCLot: 1499577)										
VA24B3869-004	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0534 mg/L	0.05 mg/L	107	70.0	130	----
Anions and Nutrients (QCLot: 1500899)										
VA24B3582-009	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.125 mg/L	0.1 mg/L	125	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1500335)										
CG2408017-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.26 mg/L	5 mg/L	105	70.0	130	----
Total Metals (QCLot: 1498144)										
FJ2401681-005	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0193 mg/L	0.02 mg/L	96.7	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00983 mg/L	0.01 mg/L	98.3	70.0	130	----
		Boron, total	7440-42-8	E420	0.098 mg/L	0.1 mg/L	98.2	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00393 mg/L	0.004 mg/L	98.2	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0100 mg/L	0.01 mg/L	100	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0395 mg/L	0.04 mg/L	98.8	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0195 mg/L	0.02 mg/L	97.5	70.0	130	----
		Copper, total	7440-50-8	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Iron, total	7439-89-6	E420	1.72 mg/L	2 mg/L	86.2	70.0	130	----
		Lead, total	7439-92-1	E420	0.0190 mg/L	0.02 mg/L	95.3	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0991 mg/L	0.1 mg/L	99.1	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	ND mg/L	----	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1498144) - continued										
FJ2401681-005	Anonymous	Nickel, total	7440-02-0	E420	0.0387 mg/L	0.04 mg/L	96.7	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.4 mg/L	10 mg/L	104	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0402 mg/L	0.04 mg/L	101	70.0	130	----
		Silicon, total	7440-21-3	E420	9.39 mg/L	10 mg/L	93.9	70.0	130	----
		Silver, total	7440-22-4	E420	0.00390 mg/L	0.004 mg/L	97.4	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0396 mg/L	0.04 mg/L	98.9	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00377 mg/L	0.004 mg/L	94.4	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0182 mg/L	0.02 mg/L	90.9	70.0	130	----
		Tin, total	7440-31-5	E420	0.0198 mg/L	0.02 mg/L	99.2	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0391 mg/L	0.04 mg/L	97.9	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00370 mg/L	0.004 mg/L	92.4	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.103 mg/L	0.1 mg/L	103	70.0	130	----
		Zinc, total	7440-66-6	E420	0.394 mg/L	0.4 mg/L	98.4	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0400 mg/L	0.04 mg/L	100.0	70.0	130	----
Total Metals (QCLot: 1502049)										
VA24B3720-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000957 mg/L	0 mg/L	95.7	70.0	130	----
Total Metals (QCLot: 1502050)										
YL2400666-004	GLG-2024-00001-020	Mercury, total	7439-97-6	E508	0.0000894 mg/L	0 mg/L	89.4	70.0	130	----
Dissolved Metals (QCLot: 1498545)										
VA24B3588-002	Anonymous	Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	75.4 mg/L	80 mg/L	94.2	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
Volatile Organic Compounds (QCLot: 1501390)										
CG2408136-001	Anonymous	Benzene	71-43-2	E611A	93.6 µg/L	100 µg/L	93.6	70.0	130	----
		Ethylbenzene	100-41-4	E611A	92.9 µg/L	100 µg/L	92.9	70.0	130	----
		Toluene	108-88-3	E611A	92.2 µg/L	100 µg/L	92.2	70.0	130	----
		Xylene, m+p-	179601-23-1	E611A	185 µg/L	200 µg/L	92.5	70.0	130	----
		Xylene, o-	95-47-6	E611A	92.5 µg/L	100 µg/L	92.5	70.0	130	----

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page 1 of 1

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Stantec Consulting Ltd.	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Natalie Normandeau	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	4910 53 St, PO Box 1777 Yellowknife, NT X1A 2P4	☐ Criteria on Report - provide details below if box checked Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	(204) 509-9864 (867) 920-2882	Email 1 or Fax natalie.normandeau@stantec.com Email 2 steve.hanrington@stantec.com	Specify Date Required for E2,E or P:

Invoice To		Invoice Distribution	Analysis Request
	Same as Report To ☐ Yes ☑ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report ☐ Yes ☑ No	Email 1 or Fax SAPinvoices@stantec.com	
Company:	Stantec Consulting Ltd.	Email 2	
Contact:			

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	YL24-STAC100-003	Approver ID:	Cost Center:
Job #:	123515016	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler:

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Groundwater Package	Surface Water Package SNP	Number of Containers
	GLG-2024-00001-015	13-JUN-24	09:52	Water		✓	7
	GLG-2024-00001-016	13-JUN-24	10:57	Water		✓	7
	GLG-2024-00001-009	13-JUN-24	11:52	Water		✓	7
	GLG-2024-00001-020	13-JUN-24	11:52	Water		✓	7
	GLG-2024-00001-014	13-JUN-24	12:38	Water		✓	7
	GLG-2024-00001-017	13-JUN-24	13:33	Water		✓	7

Environmental Division
Yellowknife
Work Order Reference
YL2400666

Telephone : +1 867 873 5593

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No Are samples for human drinking water use? ☐ Yes ☐ No	d. metals field filtered, NOT preserved

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☐ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐		

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
4.7					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Normandeau NN	13/06/24	15:30	SA	13/JUNE/24	1556			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NAP-AN0356-v09 Final/Nil January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Canada Ltd.

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CERTIFICATE OF ANALYSIS

Work Order	: **YL2400673**	Page	: 1 of 6
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 14-Jun-2024 16:12
PO	: ----	Date Analysis Commenced	: 19-Jun-2024
C-O-C number	: ----	Issue Date	: 24-Jun-2024 11:38
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 5		
No. of samples analysed	: 5		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Erin Sanchez		Metals, Burnaby, British Columbia
Hannah Phung	Lab Assistant	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Kevin Baxter	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Maqsood UlHassan	Laboratory Analyst	Organics, Calgary, Alberta
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Nguyen Tran	Laboratory Analyst	Organics, Calgary, Alberta
Owen Cheng		Metals, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	*Comment*
YL2400673-005	GLG-2024-00001-005	***Sample(s) 005: Insufficient Sample for [BTEX/F1-F4] analysis. The requested analysis cannot be performed.***

Qualifiers

Qualifier	*Description*
DLDS	*Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-010	GLG-2024-0000 1-011	GLG-2024-0000 1-012	GLG-2024-0000 1-013	GLG-2024-0000 1-005
					Client sampling date / time	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00
						YL2400673-001	YL2400673-002	YL2400673-003	YL2400673-004	YL2400673-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		41.7	41.7	48.7	41.6	290
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		41.7	41.7	48.7	41.6	290
Conductivity	----	E100/VA	2.0	µS/cm		105	104	122	103	1200
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		45.4	45.0	46.1	43.9	613
pH	----	E108/VA	0.10	pH units		7.90	7.91	8.22	7.90	8.14
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		60.3	53.7	58.3	59.7	908
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		<1.0	<1.0	1.4	<1.0	12.8
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		42.5	42.2	42.6	41.9	654
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/CG	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	0.105
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		1.45	1.46	1.49	1.46	4.03
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	0.0145	0.181
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		<0.022	<0.022	<0.022	0.064	0.801
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		<0.0051	<0.0051	<0.0051	0.0145	0.181
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0050 DLDS
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		<0.0033	<0.0033	<0.0033	<0.0033	<0.0164
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus, total	7723-14-0	E372-U/CG	0.0020	mg/L		0.0044	0.0045	0.0073	0.0061	0.0388
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		8.54	8.12	9.92	8.07	400
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/CG	0.50	mg/L		3.32	2.81	2.93	2.57	4.75
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0092	0.0082	0.0309	0.0070	0.0118

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-010	GLG-2024-0000 1-011	GLG-2024-0000 1-012	GLG-2024-0000 1-013	GLG-2024-0000 1-005
					Client sampling date / time	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00
						YL2400673-001	YL2400673-002	YL2400673-003	YL2400673-004	YL2400673-005
						Result	Result	Result	Result	Result
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	0.00068
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00030	0.00026	0.00029	0.00028	0.00760
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00462	0.00431	0.00514	0.00454	0.0298
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	0.050
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000265
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		12.8	12.8	12.9	12.3	207
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	0.00648
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00056	0.00051	0.00067	0.00052	0.00072
Iron, total	7439-89-6	E420/VA	0.010	mg/L		<0.010	<0.010	0.033	<0.010	5.18
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	0.000233
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0019	0.0019	0.0020	0.0019	0.0027
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		3.27	3.16	3.38	3.21	23.4
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00232	0.00243	0.00445	0.00228	0.944
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000089	0.000082	0.000080	0.000084	0.00144
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		<0.00050	<0.00050	0.00052	<0.00050	0.00895
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	0.051
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.51	1.50	1.54	1.51	10.9
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00197	0.00188	0.00201	0.00196	0.00140
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	0.000204
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		0.22	0.19	0.23	0.19	6.22
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		2.49	2.45	2.60	2.47	30.2
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0448	0.0468	0.0468	0.0433	0.958
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		2.94	2.87	3.49	2.89	151
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-010	GLG-2024-0000 1-011	GLG-2024-0000 1-012	GLG-2024-0000 1-013	GLG-2024-0000 1-005
					Client sampling date / time	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00
						YL2400673-001	YL2400673-002	YL2400673-003	YL2400673-004	YL2400673-005
						Result	Result	Result	Result	Result
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	0.000017
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		0.00037	0.00036	0.00126	<0.00030	<0.00060 DLM
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000092	0.000092	0.000107	0.000093	0.00379
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00040 DLM
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		12.1	12.0	12.0	12.0	222
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		2.98	2.96	3.08	2.90	24.1
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.50	1.51	1.50	1.48	10.8
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		2.31	2.34	2.35	2.27	29.9
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Toluene	108-88-3	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		<0.75	<0.75	<0.75	<0.75	----
BTEX, total	----	E611A/CG	1.2	µg/L		<1.2	<1.2	<1.2	<1.2	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	<100	----
F1-BTEX	----	EC580/CG	100	µg/L		<100	<100	<100	<100	----
F2 (C10-C16)	----	E601/CG	100	µg/L		<100	<100	<100	<100	----
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	<250	<250	<250	----
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	<250	<250	<250	----
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	<400	<400	<400	----

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 1-010	GLG-2024-0000 1-011	GLG-2024-0000 1-012	GLG-2024-0000 1-013	GLG-2024-0000 1-005
					Client sampling date / time	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00	14-Jun-2024 00:00
						YL2400673-001	YL2400673-002	YL2400673-003	YL2400673-004	YL2400673-005
						Result	Result	Result	Result	Result
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		101	99.9	86.9	99.8	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		104	79.7	73.8	101	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		79.9	84.0	82.5	81.6	----
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		103	104	103	103	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2400673**	Page	: 1 of 19
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 14-Jun-2024 16:12
PO	: ----	Issue Date	: 24-Jun-2024 11:38
C-O-C number	: ----		
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 5		
No. of samples analysed	: 5		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-005	E298	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	20-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-010	E298	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	20-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-011	E298	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	20-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-012	E298	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	20-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00001-013	E298	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	20-Jun-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-005	E235.Cl	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	19-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00001-010	E235.Cl	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	19-Jun-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE										
GLG-2024-00001-011	E235.Cl	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	19-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE										
GLG-2024-00001-012	E235.Cl	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	19-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE										
GLG-2024-00001-013	E235.Cl	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	19-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00001-005	E378-U	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00001-010	E378-U	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00001-011	E378-U	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00001-012	E378-U	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00001-013	E378-U	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00001-005	E235.NO3-L	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00001-010	E235.NO3-L	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00001-011	E235.NO3-L	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00001-012	E235.NO3-L	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00001-013	E235.NO3-L	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-005	E235.NO2-L	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-010	E235.NO2-L	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-011	E235.NO2-L	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-012	E235.NO2-L	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00001-013	E235.NO2-L	14-Jun-2024	19-Jun-2024	3 days	5 days	× EHT	19-Jun-2024	3 days	5 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-005	E235.SO4	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	19-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-010	E235.SO4	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	19-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-011	E235.SO4	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	19-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-012	E235.SO4	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	19-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00001-013	E235.SO4	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	19-Jun-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-005	E372-U	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	21-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-010	E372-U	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	21-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-011	E372-U	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	21-Jun-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-012	E372-U	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	21-Jun-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00001-013	E372-U	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	21-Jun-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-005	E421	14-Jun-2024	19-Jun-2024	180 days	5 days	✓	20-Jun-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-010	E421	14-Jun-2024	19-Jun-2024	180 days	5 days	✓	20-Jun-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-011	E421	14-Jun-2024	19-Jun-2024	180 days	5 days	✓	20-Jun-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-012	E421	14-Jun-2024	19-Jun-2024	180 days	5 days	✓	20-Jun-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00001-013	E421	14-Jun-2024	19-Jun-2024	180 days	5 days	✓	20-Jun-2024	180 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-010	E581.F1	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	19-Jun-2024	14 days	5 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-011	E581.F1	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	19-Jun-2024	14 days	5 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-012	E581.F1	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	19-Jun-2024	14 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-013	E581.F1	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	19-Jun-2024	14 days	5 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-010	E601	14-Jun-2024	22-Jun-2024	14 days	8 days	✓	22-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-011	E601	14-Jun-2024	22-Jun-2024	14 days	8 days	✓	22-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-012	E601	14-Jun-2024	22-Jun-2024	14 days	8 days	✓	22-Jun-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-013	E601	14-Jun-2024	22-Jun-2024	14 days	8 days	✓	22-Jun-2024	40 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-005	E355-L	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	20-Jun-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-010	E355-L	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	20-Jun-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-011	E355-L	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	20-Jun-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-012	E355-L	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	20-Jun-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00001-013	E355-L	14-Jun-2024	20-Jun-2024	28 days	6 days	✓	20-Jun-2024	28 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-005	E290	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	20-Jun-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-010	E290	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	20-Jun-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-011	E290	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	20-Jun-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-012	E290	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	20-Jun-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00001-013	E290	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	20-Jun-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-005	E100	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	20-Jun-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-010	E100	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	20-Jun-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-011	E100	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	20-Jun-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-012	E100	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	20-Jun-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00001-013	E100	14-Jun-2024	19-Jun-2024	28 days	5 days	✓	20-Jun-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-005	E108	14-Jun-2024	19-Jun-2024	0.25 hrs	123 hrs	× EHTR-FM	20-Jun-2024	0.25 hrs	145 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-010	E108	14-Jun-2024	19-Jun-2024	0.25 hrs	123 hrs	× EHTR-FM	20-Jun-2024	0.25 hrs	145 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-011	E108	14-Jun-2024	19-Jun-2024	0.25 hrs	123 hrs	× EHTR-FM	20-Jun-2024	0.25 hrs	145 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-012	E108	14-Jun-2024	19-Jun-2024	0.25 hrs	123 hrs	× EHTR-FM	20-Jun-2024	0.25 hrs	145 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00001-013	E108	14-Jun-2024	19-Jun-2024	0.25 hrs	123 hrs	× EHTR-FM	20-Jun-2024	0.25 hrs	145 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-005	E162-L	14-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-010	E162-L	14-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-011	E162-L	14-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-012	E162-L	14-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00001-013	E162-L	14-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00001-005	E160-L	14-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00001-010	E160-L	14-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00001-011	E160-L	14-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00001-012	E160-L	14-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00001-013	E160-L	14-Jun-2024	----	----	----		21-Jun-2024	7 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-005	E508	14-Jun-2024	22-Jun-2024	0 hrs	183 hrs	× UCP	22-Jun-2024	0 hrs	183 hrs	× UCP

Matrix: **Water**

Evaluation: ✗ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-010	E508	14-Jun-2024	22-Jun-2024	0 hrs	183 hrs	✗ UCP	22-Jun-2024	0 hrs	183 hrs	✗ UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-011	E508	14-Jun-2024	22-Jun-2024	0 hrs	183 hrs	✗ UCP	22-Jun-2024	0 hrs	183 hrs	✗ UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-012	E508	14-Jun-2024	22-Jun-2024	0 hrs	183 hrs	✗ UCP	22-Jun-2024	0 hrs	183 hrs	✗ UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00001-013	E508	14-Jun-2024	22-Jun-2024	0 hrs	183 hrs	✗ UCP	22-Jun-2024	0 hrs	183 hrs	✗ UCP
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-005	E420	14-Jun-2024	19-Jun-2024	180 days	5 days	✓	20-Jun-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-010	E420	14-Jun-2024	19-Jun-2024	180 days	5 days	✓	20-Jun-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-011	E420	14-Jun-2024	19-Jun-2024	180 days	5 days	✓	20-Jun-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-012	E420	14-Jun-2024	19-Jun-2024	180 days	5 days	✓	20-Jun-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00001-013	E420	14-Jun-2024	19-Jun-2024	180 days	5 days	✓	20-Jun-2024	180 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-010	E611A	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	19-Jun-2024	14 days	5 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-011	E611A	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	19-Jun-2024	14 days	5 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-012	E611A	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	19-Jun-2024	14 days	5 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00001-013	E611A	14-Jun-2024	19-Jun-2024	14 days	5 days	✓	19-Jun-2024	14 days	5 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1502232	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	1505171	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1501501	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1501502	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1502240	1	19	5.2	5.0	✓
Conductivity in Water	E100	1502230	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1501734	1	7	14.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1502243	1	11	9.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1502237	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1502238	1	19	5.2	5.0	✓
pH by Meter	E108	1502231	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1502236	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1508204	1	5	20.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1508322	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1501368	2	18	11.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1505574	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1503852	1	17	5.8	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1502232	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	1505171	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1501501	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1501502	1	4	25.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1508425	2	21	9.5	5.0	✓
Chloride in Water by IC	E235.Cl	1502240	1	19	5.2	5.0	✓
Conductivity in Water	E100	1502230	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1501734	1	7	14.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1502243	1	11	9.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1502237	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1502238	1	19	5.2	5.0	✓
pH by Meter	E108	1502231	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1502236	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1508204	1	5	20.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1508322	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1501368	1	18	5.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1505574	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1503852	1	17	5.8	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
TSS by Gravimetry (Low Level)	E160-L	1508203	1	12	8.3	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1502232	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	1505171	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1501501	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1501502	1	4	25.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1508425	2	21	9.5	5.0	✓
Chloride in Water by IC	E235.Cl	1502240	1	19	5.2	5.0	✓
Conductivity in Water	E100	1502230	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1501734	1	7	14.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1502243	1	11	9.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1502237	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1502238	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1502236	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1508204	1	5	20.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1508322	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1501368	2	18	11.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1505574	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1503852	1	17	5.8	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1508203	1	12	8.3	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1505171	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1501501	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1502240	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1501734	1	7	14.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1502243	1	11	9.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1502237	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1502238	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1502236	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1508322	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1501368	2	18	11.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1505574	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1503852	1	17	5.8	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Calgary	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Vancouver	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Calgary	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Vancouver	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Nitrite (as N) converted to Nitrite (as NO2)	EC235.NO2A ALS Environmental - Vancouver	Water	Calculation	Nitrite by IC measured as N is converted to the NO2 form by calculation.
Nitrate (as N) converted to Nitrate (as NO3)	EC235.NO3A ALS Environmental - Vancouver	Water	Calculation	Nitrate by IC measured as N is converted to the NO3 form by calculation.
F1-BTEX	EC580 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Sum F1 to F4 (C6-C50)	EC581 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Calgary	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Calgary	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Calgary	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **YL2400673**	Page	: 1 of 13
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 14-Jun-2024 16:12
PO	: ----	Date Analysis Commenced	: 19-Jun-2024
C-O-C number	: ----	Issue Date	: 24-Jun-2024 11:38
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 5		
No. of samples analysed	: 5		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Erin Sanchez		Vancouver Metals, Burnaby, British Columbia
Hannah Phung	Lab Assistant	Calgary Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
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Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Maqsood UlHassan	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia
Nguyen Tran	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Owen Cheng		Vancouver Metals, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1502230)											
VA24B4156-002	Anonymous	Conductivity	----	E100	2.0	µS/cm	1280	1270	0.313%	10%	----
Physical Tests (QC Lot: 1502231)											
VA24B4156-002	Anonymous	pH	----	E108	0.10	pH units	8.23	8.23	0.00%	4%	----
Physical Tests (QC Lot: 1502232)											
VA24B4156-002	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	88.6	87.2	1.61%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	88.6	87.2	1.61%	20%	----
Physical Tests (QC Lot: 1508204)											
YL2400673-001	GLG-2024-00001-010	Solids, total dissolved [TDS]	----	E162-L	10.0	mg/L	60.3	56.7	3.7	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1502236)											
VA24B4087-021	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	14.6	14.5	0.0794%	20%	----
Anions and Nutrients (QC Lot: 1502237)											
VA24B4087-021	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0910	0.0921	1.21%	20%	----
Anions and Nutrients (QC Lot: 1502238)											
VA24B4087-021	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	0.0025	0.0024	0.00005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1502240)											
VA24B4087-021	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	1.77	1.76	0.010	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1502243)											
VA24B4193-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1503852)											
VA24B3865-003	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0040	mg/L	0.158	0.146	7.70%	20%	----
Anions and Nutrients (QC Lot: 1505171)											
CG2408208-005	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0500	mg/L	1.58	1.58	0.120%	20%	----
Organic / Inorganic Carbon (QC Lot: 1505574)											
VA24B3798-008	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	15.2	13.1	15.2%	20%	----
Total Metals (QC Lot: 1501368)											
YL2400674-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0324	0.0330	1.96%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1501368) - continued											
YL2400674-001	Anonymous	Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.00097	0.00099	0.00001	Diff <2x LOR	----
YL2400674-001	Anonymous	Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00940	0.00948	0.782%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.109	0.108	1.50%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.00812	0.00834	2.68%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.017	0.017	0.0003	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000061	0.0000070	0.0000009	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	20.0	21.2	5.74%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000011	0.000011	0.00000004	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00018	0.00018	0.000002	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00602	0.00609	1.22%	20%	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.124	0.127	1.92%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000240	0.000242	0.000002	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0035	0.0036	0.0001	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	6.01	5.92	1.41%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0161	0.0155	3.78%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000948	0.000984	3.74%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00169	0.00167	0.00002	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	1.64	1.65	1.07%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00308	0.00292	5.25%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000070	0.000067	0.000003	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	0.31	0.44	0.13	Diff <2x LOR	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000017	0.000018	0.0000008	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	5.16	4.98	3.46%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.0864	0.0864	0.0268%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	4.56	4.67	0.11	Diff <2x LOR	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1501368) - continued											
YL2400674-001	Anonymous	Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000264	0.000272	3.14%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1508322)											
FJ2401695-002	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1501734)											
FJ2401696-001	Anonymous	Calcium, dissolved	7440-70-2	E421	0.050	mg/L	88.3	87.3	1.13%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	17.0	17.3	1.54%	20%	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	1.54	1.58	2.62%	20%	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	34.3	35.4	3.12%	20%	----
Volatile Organic Compounds (QC Lot: 1501501)											
EO2404782-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1501502)											
YL2400673-001	GLG-2024-00001-010	F1 (C6-C10)	----	E581.F1	100	µg/L	<100	<100	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1502230)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1502232)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1508203)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1508204)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1502236)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1502237)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1502238)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1502240)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1502243)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1503852)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1505171)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1505574)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1501368)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1501368) - continued						
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	MBRR
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1508322)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1501734)						
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Volatile Organic Compounds (QCLot: 1501501)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1501502)						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1508425)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1508996)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----

Qualifiers

Qualifier	Description
MBRR	*Initial MB for this submission had positive results for flagged analyte (data not shown). Low level samples were repeated with new QC (2nd MB results shown). High level results (>5x initial MB level) and non-detect results were reported and are defensible*

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1502230)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	99.9	90.0	110	----
Physical Tests (QCLot: 1502231)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1502232)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	112	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	110	85.0	115	----
Physical Tests (QCLot: 1508203)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	91.5	85.0	115	----
Physical Tests (QCLot: 1508204)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	111	85.0	115	----
Anions and Nutrients (QCLot: 1502236)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1502237)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1502238)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1502240)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1502243)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	95.0	80.0	120	----
Anions and Nutrients (QCLot: 1503852)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	98.4	80.0	120	----
Anions and Nutrients (QCLot: 1505171)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	103	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1505574)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	89.2	80.0	120	----
Total Metals (QCLot: 1501368)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	103	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	98.5	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1501368) - continued									
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	106	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	96.1	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	101	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	103	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	98.1	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	93.5	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.8	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	95.2	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	101	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	103	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	102	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	98.0	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	98.6	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	99.0	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	105	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	100.0	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	106	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	112	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	90.7	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	105	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	98.5	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	101	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	95.7	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	95.0	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	94.0	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	104	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	97.8	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	105	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	100	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1501368) - continued									
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	97.6	80.0	120	----
Total Metals (QCLot: 1508322)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	100	80.0	120	----
Dissolved Metals (QCLot: 1501734)									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	94.9	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	96.2	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	99.9	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	99.9	80.0	120	----
Volatile Organic Compounds (QCLot: 1501501)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	127	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	123	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	123	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	124	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	124	70.0	130	----
Hydrocarbons (QCLot: 1501502)									
F1 (C6-C10)	----	E581.F1	100	µg/L	2480 µg/L	106	70.0	130	----
Hydrocarbons (QCLot: 1508425)									
F2 (C10-C16)	----	E601	100	µg/L	3830 µg/L	99.1	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7950 µg/L	99.3	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	4220 µg/L	101	70.0	130	----
Hydrocarbons (QCLot: 1508996)									
F2 (C10-C16)	----	E601	100	µg/L	3830 µg/L	114	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7950 µg/L	109	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	4220 µg/L	110	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1502236)										
VA24B4087-022	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1502237)										
VA24B4087-022	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.56 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1502238)										
VA24B4087-022	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.501 mg/L	0.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1502240)										
VA24B4087-022	Anonymous	Chloride	16887-00-6	E235.Cl	103 mg/L	100 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1502243)										
VA24B4314-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0280 mg/L	0.03 mg/L	93.3	70.0	130	----
Anions and Nutrients (QCLot: 1503852)										
VA24B3865-004	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1505171)										
CG2408208-006	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1505574)										
VA24B3798-008	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1501368)										
YL2400674-002	Anonymous	Chromium, total	7440-47-3	E420	0.0419 mg/L	0.04 mg/L	105	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0186 mg/L	0.02 mg/L	93.1	70.0	130	----
YL2400674-002	Anonymous	Aluminum, total	7429-90-5	E420	0.192 mg/L	0.2 mg/L	95.8	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0179 mg/L	0.02 mg/L	89.4	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	0.0181 mg/L	0.02 mg/L	90.7	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00949 mg/L	0.01 mg/L	94.9	70.0	130	----
		Boron, total	7440-42-8	E420	0.102 mg/L	0.1 mg/L	102	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00372 mg/L	0.004 mg/L	93.0	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00896 mg/L	0.01 mg/L	89.6	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0195 mg/L	0.02 mg/L	97.7	70.0	130	----
		Copper, total	7440-50-8	E420	0.0191 mg/L	0.02 mg/L	95.5	70.0	130	----
		Iron, total	7439-89-6	E420	1.90 mg/L	2 mg/L	94.9	70.0	130	----
		Lead, total	7439-92-1	E420	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0967 mg/L	0.1 mg/L	96.7	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0178 mg/L	0.02 mg/L	89.1	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1501368) - continued										
YL2400674-002	Anonymous	Molybdenum, total	7439-98-7	E420	0.0186 mg/L	0.02 mg/L	92.8	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0381 mg/L	0.04 mg/L	95.4	70.0	130	----
		Phosphorus, total	7723-14-0	E420	8.79 mg/L	10 mg/L	87.9	70.0	130	----
		Potassium, total	7440-09-7	E420	3.90 mg/L	4 mg/L	97.5	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0185 mg/L	0.02 mg/L	92.3	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0424 mg/L	0.04 mg/L	106	70.0	130	----
		Silicon, total	7440-21-3	E420	9.93 mg/L	10 mg/L	99.3	70.0	130	----
		Silver, total	7440-22-4	E420	0.00366 mg/L	0.004 mg/L	91.5	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	20.3 mg/L	20 mg/L	101	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0356 mg/L	0.04 mg/L	88.9	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00343 mg/L	0.004 mg/L	85.8	70.0	130	----
		Tin, total	7440-31-5	E420	0.0179 mg/L	0.02 mg/L	89.7	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0181 mg/L	0.02 mg/L	90.4	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00382 mg/L	0.004 mg/L	95.5	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0978 mg/L	0.1 mg/L	97.8	70.0	130	----
		Zinc, total	7440-66-6	E420	0.381 mg/L	0.4 mg/L	95.3	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0370 mg/L	0.04 mg/L	92.4	70.0	130	----
Total Metals (QCLot: 1508322)										
VA24B3832-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000932 mg/L	0 mg/L	93.2	70.0	130	----
Dissolved Metals (QCLot: 1501734)										
FJ2401696-002	Anonymous	Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.92 mg/L	4 mg/L	98.1	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
Volatile Organic Compounds (QCLot: 1501501)										
EO2404782-001	Anonymous	Benzene	71-43-2	E611A	114 µg/L	100 µg/L	114	70.0	130	----
		Ethylbenzene	100-41-4	E611A	107 µg/L	100 µg/L	107	70.0	130	----
		Toluene	108-88-3	E611A	108 µg/L	100 µg/L	108	70.0	130	----
		Xylene, m+p-	179601-23-1	E611A	234 µg/L	200 µg/L	117	70.0	130	----
		Xylene, o-	95-47-6	E611A	111 µg/L	100 µg/L	111	70.0	130	----

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Contact:	Natalie Normandeau	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	4910 53 St, PO Box 1777 Yellowknife, NT X1A 2P4	☐ Criteria on Report - provide details below if box checked Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	(204) 509-9864 (867) 920-2882	Email 1 or Fax natalie.normandeau@stantec.com Email 2 steve.hannington@stantec.com	Specify Date Required for E2,E or P:

Invoice To	Same as Report To ☐ Yes ☑ No	Invoice Distribution	Analysis Request
	Copy of Invoice with Report ☐ Yes ☑ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
Company:	Stantec Consulting Ltd.	Email 1 or Fax SAPinvoices@stantec.com	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	YL24-STAC100-003	Approver ID:	Cost Center:
Job #:	123515016	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		**ALS Contact:**	**Sampler:**

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Groundwater Package	Surface Water Package SNP											Number of Containers
	GLG-2024-00001-010					✓											7
	GLG-2024-00001-011					✓											7
	GLG-2024-00001-012					✓											7
	GLG-2024-00001-013					✓											7
	GLG-2024-00001-005				✓												4

Environmental Division
Yellowknife
Work Order Reference
YL2400673

Telephone : +1 867 873 5593

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)	SAMPLE CONDITION AS RECEIVED (lab use only)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No Are samples for human drinking water use? ☐ Yes ☐ No	Insufficient water for full sample collection for GLG-2024-00001-005 : only gen chem x1, nutrients x1, diss. metals x1 and total metals x1	Frozen ☐ SIF Observations Yes ☐ No ☐ Ice packs Yes ☐ No ☐ Custody seal intact Yes ☐ No ☐ Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
8.2					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Natalie	6/14/2024	15:30		14/24 JUNE	16:12			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2400874**	Page	: 1 of 11
Amendment	: **1**		
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 11-Jul-2024 09:40
PO	: ----	Date Analysis Commenced	: 15-Jul-2024
C-O-C number	: ----	Issue Date	: 15-Aug-2024 11:51
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Inorganics, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	*Comment*
YL2400874-001	GLG-2024-00002-013	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400874-002	GLG-2024-00002-010	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400874-003	GLG-2024-00002-012	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400874-004	GLG-2024-00002-011	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400874-005	GLG-2024-00002-006	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400874-006	GLG-2024-00002-019	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400874-007	GLG-2024-00002-003	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

YL2400874-008	GLG-2024-00002-004	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400874-009	GLG-2024-00002-001	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400874-010	GLG-2024-00002-002	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

Qualifiers

Qualifier	*Description*
DLA	*Detection Limit adjusted for required dilution.*
DLDS	*Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00002-013	GLG-2024-00002-010	GLG-2024-00002-012	GLG-2024-00002-011	GLG-2024-00002-006
					Client sampling date / time	10-Jul-2024 10:05	10-Jul-2024 10:55	10-Jul-2024 12:10	10-Jul-2024 13:15	10-Jul-2024 10:50
						YL2400874-001	YL2400874-002	YL2400874-003	YL2400874-004	YL2400874-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		40.7	40.6	40.9	40.2	168
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	3.4
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	1.7
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		40.7	40.6	40.9	40.2	171
Conductivity	----	E100/VA	2.0	µS/cm		101	99.5	99.9	98.9	570
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		43.0	44.1	44.2	44.4	312
pH	----	E108/VA	0.10	pH units		7.91	7.92	7.92	7.94	8.36
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		56.3	48.7	58.7	53.7	395
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		42.0	41.2	42.2	42.1	288
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		1.44	1.44	1.44	1.43	0.88
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	<0.0050	3.72
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		<0.022	<0.022	<0.022	<0.022	16.5
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		<0.0051	<0.0051	<0.0051	<0.0051	3.72
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	0.0016
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		<0.0033	<0.0033	<0.0033	<0.0033	0.0052
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	0.0132
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0042	0.0040	0.0045	0.0029	0.0179
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		7.86	7.86	7.88	7.84	127
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		2.60	2.76	2.83	3.02	4.04
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0057	0.0080	0.0147	0.0108	0.0053

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 2-013	GLG-2024-0000 2-010	GLG-2024-0000 2-012	GLG-2024-0000 2-011	GLG-2024-0000 2-006
					Client sampling date / time	10-Jul-2024 10:05	10-Jul-2024 10:55	10-Jul-2024 12:10	10-Jul-2024 13:15	10-Jul-2024 10:50
						YL2400874-001	YL2400874-002	YL2400874-003	YL2400874-004	YL2400874-005
						Result	Result	Result	Result	Result
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	0.00488
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00032	0.00030	0.00033	0.00030	0.00380
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00434	0.00440	0.00443	0.00479	0.0255
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	0.010
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000154
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		12.4	12.8	12.9	12.9	109
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	0.00019
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00108	0.00054	0.00065	0.00056	0.00124
Iron, total	7439-89-6	E420/VA	0.010	mg/L		<0.010	<0.010	0.012	<0.010	0.019
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0021	0.0021	0.0022	0.0022	0.0019
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		2.92	2.95	2.92	2.96	9.79
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00075	0.00211	0.00321	0.00214	0.0138
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000112	0.000090	0.000103	0.000089	0.00626
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	0.00214
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.48	1.50	1.50	1.50	1.71
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00194	0.00188	0.00199	0.00191	0.00111
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	<0.000050	0.000052	<0.000050	0.00190
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		0.14	0.15	0.14	0.14	4.90
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		2.43	2.43	2.41	2.40	3.42
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0477	0.0482	0.0483	0.0485	0.359
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		2.65	2.75	2.53	2.67	45.3
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	0.000010

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00002-013	GLG-2024-00002-010	GLG-2024-00002-012	GLG-2024-00002-011	GLG-2024-00002-006
					Client sampling date / time	10-Jul-2024 10:05	10-Jul-2024 10:55	10-Jul-2024 12:10	10-Jul-2024 13:15	10-Jul-2024 10:50
						YL2400874-001	YL2400874-002	YL2400874-003	YL2400874-004	YL2400874-005
						Result	Result	Result	Result	Result
Total Metals										
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		0.00016	<0.00010	<0.00010	<0.00010	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00030	<0.00030	0.00043	<0.00030	<0.00030
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000110	0.000105	0.000106	0.000105	0.00328
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		12.0	11.7	12.1	12.0	99.4
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		2.92	2.90	2.90	2.95	9.61
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.54	1.55	1.53	1.55	1.81
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		2.38	2.37	2.38	2.38	3.35
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	<0.40	<0.40	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Hydrocarbons										
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	<100	<100	<100
F2 (C10-C16)	----	E601/VA	300	µg/L		<300	<300	<300	<300	<300
F3 (C16-C34)	----	E601/VA	300	µg/L		<300	<300	<300	<300	<300
F4 (C34-C50)	----	E601/VA	300	µg/L		<300	<300	<300	<300	<300
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	<100	<100	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		81.3	85.4	85.2	79.0	79.6

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00002-013	GLG-2024-00002-010	GLG-2024-00002-012	GLG-2024-00002-011	GLG-2024-00002-006
					Client sampling date / time	10-Jul-2024 10:05	10-Jul-2024 10:55	10-Jul-2024 12:10	10-Jul-2024 13:15	10-Jul-2024 10:50
						YL2400874-001	YL2400874-002	YL2400874-003	YL2400874-004	YL2400874-005
						Result	Result	Result	Result	Result
Hydrocarbons Surrogates										
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%		119	117	115	121	121
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		75.6	75.3	72.0	70.4	75.3
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		97.9	96.4	98.4	96.1	98.6

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00002-019	GLG-2024-00002-003	GLG-2024-00002-004	GLG-2024-00002-001	GLG-2024-00002-002
					Client sampling date / time	10-Jul-2024 00:00	10-Jul-2024 12:15	10-Jul-2024 13:10	10-Jul-2024 14:10	10-Jul-2024 15:00
						YL2400874-006	YL2400874-007	YL2400874-008	YL2400874-009	YL2400874-010
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		167	801	250	317	536
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		6.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		3.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		173	801	250	317	536
Conductivity	----	E100/VA	2.0	µS/cm		570	2180	822	2630	6310
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		296	1190	386	1570	1290
pH	----	E108/VA	0.10	pH units		8.39	7.42	7.67	7.43	7.69
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		420	1860	628	2600	5390
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		<1.0	39.8	15.7	56.9	34.6
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		292	1170	375	1550	1290
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		<0.0050	1.38	0.289	1.10	3.03
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		0.87	33.0	3.42	11.7	284
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		3.71	<0.100 DLDS	<0.0250 DLDS	<0.100 DLDS	<0.250 DLDS
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		16.4	<0.443	<0.111	<0.443	<1.11
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		3.71	<0.102	<0.0255	<0.102	<0.255
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		0.0014	<0.0200 DLDS	0.0053	<0.0200 DLDS	<0.0500 DLDS
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		0.0046	<0.0656	0.0174	<0.0656	<0.164
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		0.0137	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0176	0.121	0.0204	0.0125	0.126
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		127	601	217	1480	3450
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		4.16	18.4	10.7	3.38	12.8
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0048	0.0128	0.0459	0.0998	0.0309
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		0.00471	<0.00010	0.00020	<0.00020 DLA	<0.00050 DLA

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0002-019	GLG-2024-0002-003	GLG-2024-0002-004	GLG-2024-0002-001	GLG-2024-0002-002
					Client sampling date / time	10-Jul-2024 00:00	10-Jul-2024 12:15	10-Jul-2024 13:10	10-Jul-2024 14:10	10-Jul-2024 15:00
						YL2400874-006	YL2400874-007	YL2400874-008	YL2400874-009	YL2400874-010
						Result	Result	Result	Result	Result
Total Metals										
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00379	0.0181	0.0283	0.0108	0.0756
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0247	0.242	0.0340	0.0202	0.0244
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000200 DLA	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000100 DLA	<0.000250 DLA
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	0.106	0.025	0.143	0.145
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.0000129	<0.0000050	0.0000521	0.000269	0.00153
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		103	334	127	436	380
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	<0.000010	0.000013	0.000028	<0.000050 DLA
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	<0.00050	0.00054	<0.00100 DLA	<0.00250 DLA
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.00019	0.0198	0.00752	0.0138	0.369
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00122	<0.00050	0.00249	<0.00100 DLA	0.00269
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.018	15.9	7.81	43.0	21.3
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	<0.000050	0.00113	0.000428	0.00139
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0018	0.0300	0.0030	0.0265	0.0364
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		9.55	87.4	16.8	116	82.8
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.0134	3.89	5.34	1.12	10.5
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.00609	0.000774	0.00178	0.000895	0.00506
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.00203	0.00170	0.0182	0.00681	0.624
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	0.128	<0.050	<0.100 DLA	<0.250 DLA
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.66	23.1	4.06	48.8	71.5
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00102	0.00148	0.00210	0.00455	0.00664
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.00186	0.000186	0.000092	<0.000100 DLA	0.000665
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		4.87	11.3	6.35	11.8	10.0
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	<0.000010	0.000027	<0.000020 DLA	0.000051
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		3.39	113	17.1	71.4	1260
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.352	2.25	0.424	4.54	3.56
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		45.4	214	70.9	540	1120
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	0.00040	<0.00020	0.00059	<0.00100 DLA
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		0.000010	<0.000010	<0.000010	<0.000020 DLA	<0.000050 DLA
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00030 DLM	<0.00050 DLA

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0002-019	GLG-2024-0002-003	GLG-2024-0002-004	GLG-2024-0002-001	GLG-2024-0002-002
					Client sampling date / time	10-Jul-2024 00:00	10-Jul-2024 12:15	10-Jul-2024 13:10	10-Jul-2024 14:10	10-Jul-2024 15:00
						YL2400874-006	YL2400874-007	YL2400874-008	YL2400874-009	YL2400874-010
						Result	Result	Result	Result	Result
Total Metals										
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00020 DLA	<0.00050 DLA
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00030	<0.00180 DLM	0.00043	<0.00060 DLA	<0.00150 DLA
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	0.00015	<0.00010	0.00112	0.00070
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.00322	0.0121	0.000989	0.000864	0.0112
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	0.00122	<0.00050	<0.00100 DLA	<0.00250 DLA
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	<0.0030	0.0046	0.0458	1.83
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	0.00343	<0.00040 DLM	<0.00040 DLA	0.00155
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		101	322	122	430	389
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		9.74	88.5	17.1	116	78.4
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.76	23.8	4.36	48.2	70.5
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		3.27	113	17.3	72.2	1260
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	3.38	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	2.78	<0.50	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	3.15	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	3.10	0.99	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	<0.30	0.52	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	3.10	1.51	<0.50
Hydrocarbons										
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	110	<100	<100
F2 (C10-C16)	----	E601/VA	300	µg/L		<300	<300	840	<300	<300
F3 (C16-C34)	----	E601/VA	300	µg/L		<300	<300	<300	<300	<300
F4 (C34-C50)	----	E601/VA	300	µg/L		<300	<300	<300	<300	<300
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	104	<100	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		78.2	83.1	85.3	82.6	84.9
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		109	93.0	98.5	98.2	97.3

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00002-019	GLG-2024-00002-003	GLG-2024-00002-004	GLG-2024-00002-001	GLG-2024-00002-002
					Client sampling date / time	10-Jul-2024 00:00	10-Jul-2024 12:15	10-Jul-2024 13:10	10-Jul-2024 14:10	10-Jul-2024 15:00
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400874-006	YL2400874-007	YL2400874-008	YL2400874-009	YL2400874-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		72.0	80.5	74.7	75.1	74.1
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		98.0	96.2	96.4	96.9	95.8

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2400874**	Page	: 1 of 30
Amendment	: 1		
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 11-Jul-2024 09:40
PO	: ----	Issue Date	: 15-Aug-2024 11:52
C-O-C number	: ----		
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-001	E298	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-002	E298	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-003	E298	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-011	E298	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-012	E298	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-004	E298	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	17-Jul-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-006	E298	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-010	E298	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-013	E298	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-019	E298	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-001	E235.Cl	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-002	E235.Cl	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-004	E235.Cl	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-011	E235.Cl	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-003	E235.Cl	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-006	E235.Cl	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-010	E235.Cl	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-012	E235.Cl	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-013	E235.Cl	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-019	E235.Cl	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-001	E378-U	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-002	E378-U	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-003	E378-U	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-004	E378-U	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-006	E378-U	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-010	E378-U	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-011	E378-U	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-012	E378-U	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-013	E378-U	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-019	E378-U	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-001	E235.NO3-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-002	E235.NO3-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-003	E235.NO3-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-004	E235.NO3-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-006	E235.NO3-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-010	E235.NO3-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-011	E235.NO3-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-012	E235.NO3-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-013	E235.NO3-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-019	E235.NO3-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-001	E235.NO2-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-002	E235.NO2-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-003	E235.NO2-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-004	E235.NO2-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-006	E235.NO2-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-010	E235.NO2-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-011	E235.NO2-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-012	E235.NO2-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-013	E235.NO2-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-019	E235.NO2-L	10-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00002-001	E235.SO4	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00002-002	E235.SO4	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00002-004	E235.SO4	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00002-011	E235.SO4	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00002-003	E235.SO4	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00002-006	E235.SO4	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00002-010	E235.SO4	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00002-012	E235.SO4	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00002-013	E235.SO4	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00002-019	E235.SO4	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-001	E372-U	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	20-Jul-2024	28 days	10 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-002	E372-U	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	20-Jul-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-003	E372-U	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	20-Jul-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-004	E372-U	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	20-Jul-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-006	E372-U	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	20-Jul-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-010	E372-U	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	20-Jul-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-011	E372-U	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	20-Jul-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-012	E372-U	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	20-Jul-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-013	E372-U	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	20-Jul-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-019	E372-U	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	20-Jul-2024	28 days	10 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00002-001	E421	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	17-Jul-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00002-002	E421	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	17-Jul-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00002-003	E421	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	17-Jul-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00002-004	E421	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	17-Jul-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00002-006	E421	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	17-Jul-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00002-010	E421	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	17-Jul-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00002-011	E421	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	17-Jul-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00002-012	E421	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	17-Jul-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00002-013	E421	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	17-Jul-2024	180 days	7 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00002-019	E421	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	17-Jul-2024	180 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-001	E601	10-Jul-2024	17-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-002	E601	10-Jul-2024	17-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-003	E601	10-Jul-2024	17-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-004	E601	10-Jul-2024	17-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-006	E601	10-Jul-2024	17-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-010	E601	10-Jul-2024	17-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-011	E601	10-Jul-2024	17-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-012	E601	10-Jul-2024	17-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	1 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-013	E601	10-Jul-2024	17-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-019	E601	10-Jul-2024	17-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	1 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-001	E581.VH+F1	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-002	E581.VH+F1	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-003	E581.VH+F1	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-004	E581.VH+F1	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-006	E581.VH+F1	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-010	E581.VH+F1	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-011	E581.VH+F1	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-012	E581.VH+F1	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-013	E581.VH+F1	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-019	E581.VH+F1	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-001	E355-L	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	15-Jul-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-002	E355-L	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	15-Jul-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-003	E355-L	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	15-Jul-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-004	E355-L	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	15-Jul-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-006	E355-L	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	15-Jul-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-010	E355-L	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	15-Jul-2024	28 days	5 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-011	E355-L	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	15-Jul-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-012	E355-L	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	15-Jul-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-013	E355-L	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	15-Jul-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-019	E355-L	10-Jul-2024	15-Jul-2024	28 days	5 days	✓	15-Jul-2024	28 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-001	E290	10-Jul-2024	16-Jul-2024	14 days	5 days	✓	16-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-002	E290	10-Jul-2024	16-Jul-2024	14 days	5 days	✓	16-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-004	E290	10-Jul-2024	16-Jul-2024	14 days	5 days	✓	16-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-011	E290	10-Jul-2024	16-Jul-2024	14 days	5 days	✓	16-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-003	E290	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-006	E290	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-010	E290	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-012	E290	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-013	E290	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-019	E290	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-001	E100	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-002	E100	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-004	E100	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-011	E100	10-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-003	E100	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-006	E100	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-010	E100	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-012	E100	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-013	E100	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-019	E100	10-Jul-2024	16-Jul-2024	28 days	6 days	✓	16-Jul-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-002	E108	10-Jul-2024	16-Jul-2024	0.25 hrs	129 hrs	× EHTR-FM	16-Jul-2024	0.25 hrs	149 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-001	E108	10-Jul-2024	16-Jul-2024	0.25 hrs	130 hrs	× EHTR-FM	16-Jul-2024	0.25 hrs	150 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-011	E108	10-Jul-2024	16-Jul-2024	0.25 hrs	131 hrs	× EHTR-FM	16-Jul-2024	0.25 hrs	150 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-004	E108	10-Jul-2024	16-Jul-2024	0.25 hrs	131 hrs	× EHTR-FM	16-Jul-2024	0.25 hrs	151 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-003	E108	10-Jul-2024	16-Jul-2024	0.25 hrs	132 hrs	× EHTR-FM	16-Jul-2024	0.25 hrs	151 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-012	E108	10-Jul-2024	16-Jul-2024	0.25 hrs	132 hrs	× EHTR-FM	16-Jul-2024	0.25 hrs	152 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-006	E108	10-Jul-2024	16-Jul-2024	0.25 hrs	133 hrs	× EHTR-FM	16-Jul-2024	0.25 hrs	153 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-010	E108	10-Jul-2024	16-Jul-2024	0.25 hrs	133 hrs	× EHTR-FM	16-Jul-2024	0.25 hrs	153 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-019	E108	10-Jul-2024	16-Jul-2024	0.25 hrs	133 hrs	× EHTR-FM	16-Jul-2024	0.25 hrs	153 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-013	E108	10-Jul-2024	16-Jul-2024	0.25 hrs	134 hrs	× EHTR-FM	16-Jul-2024	0.25 hrs	154 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-001	E162-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-002	E162-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-003	E162-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-004	E162-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-006	E162-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-010	E162-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-011	E162-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-012	E162-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-013	E162-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-019	E162-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-001	E160-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-002	E160-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-003	E160-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-004	E160-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-006	E160-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-010	E160-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-011	E160-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-012	E160-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-013	E160-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-019	E160-L	10-Jul-2024	----	----	----		17-Jul-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-001	E508	10-Jul-2024	17-Jul-2024	0 hrs	171 hrs	× UCP	17-Jul-2024	0 hrs	171 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-002	E508	10-Jul-2024	17-Jul-2024	0 hrs	171 hrs	× UCP	17-Jul-2024	0 hrs	171 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-004	E508	10-Jul-2024	17-Jul-2024	0 hrs	172 hrs	× UCP	17-Jul-2024	0 hrs	172 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-011	E508	10-Jul-2024	17-Jul-2024	0 hrs	172 hrs	× UCP	17-Jul-2024	0 hrs	172 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-003	E508	10-Jul-2024	17-Jul-2024	0 hrs	173 hrs	× UCP	17-Jul-2024	0 hrs	173 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-012	E508	10-Jul-2024	17-Jul-2024	0 hrs	173 hrs	× UCP	17-Jul-2024	0 hrs	173 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-006	E508	10-Jul-2024	17-Jul-2024	0 hrs	175 hrs	× UCP	17-Jul-2024	0 hrs	175 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-010	E508	10-Jul-2024	17-Jul-2024	0 hrs	175 hrs	× UCP	17-Jul-2024	0 hrs	175 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-013	E508	10-Jul-2024	17-Jul-2024	0 hrs	175 hrs	× UCP	17-Jul-2024	0 hrs	175 hrs	× UCP

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Total Metals : Total Mercury in Water by CVAAS										
HDPE										
GLG-2024-00002-019	E508	10-Jul-2024	17-Jul-2024	0 hrs	175 hrs	× UCP	17-Jul-2024	0 hrs	175 hrs	× UCP
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
GLG-2024-00002-001	E420	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	18-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
GLG-2024-00002-002	E420	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	18-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
GLG-2024-00002-003	E420	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	18-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
GLG-2024-00002-004	E420	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	18-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
GLG-2024-00002-006	E420	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	18-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
GLG-2024-00002-010	E420	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	18-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
GLG-2024-00002-011	E420	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	18-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
GLG-2024-00002-012	E420	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	18-Jul-2024	180 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00002-013	E420	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	18-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00002-019	E420	10-Jul-2024	17-Jul-2024	180 days	7 days	✓	18-Jul-2024	180 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-001	E611A	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-002	E611A	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-003	E611A	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-004	E611A	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-006	E611A	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-010	E611A	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-011	E611A	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-012	E611A	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-013	E611A	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-019	E611A	10-Jul-2024	16-Jul-2024	14 days	6 days	✓	16-Jul-2024	14 days	6 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1546180	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1545883	1	19	5.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1546838	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1546182	1	20	5.0	5.0	✓
Conductivity in Water	E100	1546181	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1546305	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1546188	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1546183	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1546184	1	20	5.0	5.0	✓
pH by Meter	E108	1546179	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1546185	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1550004	1	12	8.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1550476	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1546280	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1545881	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1545882	1	18	5.5	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1546837	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1546180	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1545883	1	19	5.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1546838	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1548508	2	23	8.7	5.0	✓
Chloride in Water by IC	E235.Cl	1546182	1	20	5.0	5.0	✓
Conductivity in Water	E100	1546181	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1546305	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1546188	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1546183	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1546184	1	20	5.0	5.0	✓
pH by Meter	E108	1546179	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1546185	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1550004	1	12	8.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1550476	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1546280	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1545881	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1545882	1	18	5.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1549992	1	10	10.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
VH and F1 by Headspace GC-FID	E581.VH+F1	1546837	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1546180	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1545883	1	19	5.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1546838	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1548508	2	23	8.7	5.0	✓
Chloride in Water by IC	E235.Cl	1546182	1	20	5.0	5.0	✓
Conductivity in Water	E100	1546181	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1546305	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1546188	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1546183	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1546184	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1546185	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1550004	1	12	8.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1550476	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1546280	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1545881	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1545882	1	18	5.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1549992	1	10	10.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1546837	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1545883	1	19	5.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1546838	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1546182	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1546305	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1546188	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1546183	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1546184	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1546185	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1550476	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1546280	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1545881	1	18	5.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1545882	1	18	5.5	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1546837	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Vancouver	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Vancouver	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Nitrite (as N) converted to Nitrite (as NO2)	EC235.NO2A ALS Environmental - Vancouver	Water	Calculation	Nitrite by IC measured as N is converted to the NO2 form by calculation.
Nitrate (as N) converted to Nitrate (as NO3)	EC235.NO3A ALS Environmental - Vancouver	Water	Calculation	Nitrate by IC measured as N is converted to the NO3 form by calculation.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **YL2400874**	Page	: 1 of 13
Amendment	: **1**		
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 11-Jul-2024 09:40
PO	: ----	Date Analysis Commenced	: 15-Jul-2024
C-O-C number	: ----	Issue Date	: 15-Aug-2024 11:52
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 10		
No. of samples analysed	: 10		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Dan Gebert	Laboratory Analyst	Vancouver Metals, Burnaby, British Columbia
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Vancouver Inorganics, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1546179)											
YL2400874-001	GLG-2024-00002-013	pH	----	E108	0.10	pH units	7.91	7.92	0.126%	4%	----
Physical Tests (QC Lot: 1546180)											
YL2400874-001	GLG-2024-00002-013	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	40.7	40.7	0.00%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	40.7	40.7	0.00%	20%	----
Physical Tests (QC Lot: 1546181)											
YL2400874-001	GLG-2024-00002-013	Conductivity	----	E100	2.0	µS/cm	101	99.7	0.899%	10%	----
Physical Tests (QC Lot: 1550004)											
VA24B7120-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	540	540	0.0925%	20%	----
Anions and Nutrients (QC Lot: 1545882)											
FJ2401973-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0108	0.0107	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1545883)											
FJ2401973-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0158	0.0161	0.0003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1546182)											
YL2400885-001	Anonymous	Chloride	16887-00-6	E235.Cl	2.50	mg/L	103	105	2.69%	20%	----
Anions and Nutrients (QC Lot: 1546183)											
YL2400885-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	1.44	1.47	1.93%	20%	----
Anions and Nutrients (QC Lot: 1546184)											
YL2400885-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1546185)											
YL2400885-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	1.50	mg/L	78.2	80.3	2.64%	20%	----
Anions and Nutrients (QC Lot: 1546188)											
YL2400874-001	GLG-2024-00002-013	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1545881)											
FJ2401973-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	2.56	2.41	0.14	Diff <2x LOR	----
Total Metals (QC Lot: 1546280)											
FJ2401989-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.663	0.613	7.86%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1546280) - continued											
FJ2401989-001	Anonymous	Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00052	0.00050	0.00002	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00078	0.00079	0.000009	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0597	0.0580	2.76%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.021	0.021	0.00008	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000446	0.0000429	0.0000016	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	32.5	33.2	2.12%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000069	0.000065	0.000004	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00118	0.00113	0.00006	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00030	0.00030	0.000003	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.0150	0.0150	0.0243%	20%	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.347	0.330	5.09%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000778	0.000779	0.0965%	20%	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0061	0.0060	0.00004	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	8.24	8.41	2.05%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0110	0.0109	1.58%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00865	0.00836	3.39%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00217	0.00214	0.00003	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	0.052	0.002	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	6.64	6.62	0.314%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00973	0.0101	3.63%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000710	0.000630	11.9%	20%	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	3.12	2.96	5.28%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	13.4	13.6	0.823%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.165	0.157	4.89%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	10.7	10.5	1.82%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000013	0.000011	0.000002	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	0.00086	0.00084	0.00002	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.00854	0.00955	11.2%	20%	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00055	0.00055	0.000002	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1546280) - continued											
FJ2401989-001	Anonymous	Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000720	0.000724	0.548%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00295	0.00276	0.00019	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0272	0.0268	0.0004	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
Total Metals (QC Lot: 1550476)											
VA24B6236-004	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1546305)											
FJ2401989-001	Anonymous	Calcium, dissolved	7440-70-2	E421	0.050	mg/L	32.2	32.2	0.117%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	8.12	8.12	0.0699%	20%	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	6.35	6.65	4.67%	20%	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	13.4	13.4	0.475%	20%	----
Volatile Organic Compounds (QC Lot: 1546838)											
KS2402661-003	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1546837)											
KS2402661-003	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1546180)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1546181)						
Conductivity	----	E100	1	µS/cm	1.7	----
Physical Tests (QCLot: 1549992)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1550004)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1545882)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1545883)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1546182)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1546183)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1546184)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1546185)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1546188)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Organic / Inorganic Carbon (QCLot: 1545881)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1546280)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1546280) - continued						
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1550476)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1546305)						
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Volatile Organic Compounds (QCLot: 1546838)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1546837)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1548508)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1549431)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1546179)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1546180)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	80.2	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	92.6	85.0	115	----
Physical Tests (QCLot: 1546181)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	97.8	90.0	110	----
Physical Tests (QCLot: 1549992)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	90.8	85.0	115	----
Physical Tests (QCLot: 1550004)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	97.0	85.0	115	----
Anions and Nutrients (QCLot: 1545882)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	94.1	80.0	120	----
Anions and Nutrients (QCLot: 1545883)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1546182)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 1546183)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.7	90.0	110	----
Anions and Nutrients (QCLot: 1546184)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	99.1	90.0	110	----
Anions and Nutrients (QCLot: 1546185)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.8	90.0	110	----
Anions and Nutrients (QCLot: 1546188)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	96.4	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1545881)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Total Metals (QCLot: 1546280)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	97.5	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	100	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1546280) - continued									
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	104	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	99.4	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	104	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	104	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	94.6	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	101	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	103	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	97.1	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	97.0	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.0	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	99.7	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	103	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	105	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	96.6	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	98.1	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	96.6	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	91.8	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	99.6	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	97.6	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	95.2	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	98.7	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	96.1	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	105	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	99.6	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	102	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	99.0	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	97.6	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	95.0	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	103	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	106	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	99.6	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	93.8	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1546280) - continued									
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.0	80.0	120	----
Total Metals (QCLot: 1550476)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	101	80.0	120	----
Dissolved Metals (QCLot: 1546305)									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	97.7	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	98.0	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	102	80.0	120	----
Volatile Organic Compounds (QCLot: 1546838)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	94.5	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	94.5	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	93.9	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	91.4	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	91.2	70.0	130	----
Hydrocarbons (QCLot: 1546837)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	75.2	70.0	130	----
Hydrocarbons (QCLot: 1548508)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	107	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	91.3	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	108	70.0	130	----
Hydrocarbons (QCLot: 1549431)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	106	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	100	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	110	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1545882)										
FJ2401973-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0493 mg/L	0.05 mg/L	98.7	70.0	130	----
Anions and Nutrients (QCLot: 1545883)										
FJ2401973-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1546182)										
YL2400885-002	Anonymous	Chloride	16887-00-6	E235.Cl	104 mg/L	100 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1546183)										
YL2400885-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.56 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1546184)										
YL2400885-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.516 mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1546185)										
YL2400885-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1546188)										
YL2400874-002	GLG-2024-00002-010	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0288 mg/L	0.03 mg/L	96.0	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1545881)										
FJ2401973-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.11 mg/L	5 mg/L	102	70.0	130	----
Total Metals (QCLot: 1546280)										
FJ2402014-001	Anonymous	Aluminum, total	7429-90-5	E420	0.185 mg/L	0.2 mg/L	92.4	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0205 mg/L	0.02 mg/L	103	70.0	130	----
		Barium, total	7440-39-3	E420	0.0194 mg/L	0.02 mg/L	97.1	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0393 mg/L	0.04 mg/L	98.4	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00932 mg/L	0.01 mg/L	93.2	70.0	130	----
		Boron, total	7440-42-8	E420	0.098 mg/L	0.1 mg/L	98.1	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00368 mg/L	0.004 mg/L	92.0	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0104 mg/L	0.01 mg/L	104	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0378 mg/L	0.04 mg/L	94.4	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Copper, total	7440-50-8	E420	0.0176 mg/L	0.02 mg/L	88.1	70.0	130	----
		Iron, total	7439-89-6	E420	1.85 mg/L	2 mg/L	92.7	70.0	130	----
		Lead, total	7439-92-1	E420	0.0183 mg/L	0.02 mg/L	91.7	70.0	130	----
		Lithium, total	7439-93-2	E420	ND mg/L	----	ND	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0188 mg/L	0.02 mg/L	94.2	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0219 mg/L	0.02 mg/L	109	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1546280) - continued										
FJ2402014-001	Anonymous	Nickel, total	7440-02-0	E420	0.0354 mg/L	0.04 mg/L	88.4	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.32 mg/L	10 mg/L	93.2	70.0	130	----
		Potassium, total	7440-09-7	E420	3.79 mg/L	4 mg/L	94.9	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0185 mg/L	0.02 mg/L	92.3	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0435 mg/L	0.04 mg/L	109	70.0	130	----
		Silicon, total	7440-21-3	E420	9.69 mg/L	10 mg/L	96.9	70.0	130	----
		Silver, total	7440-22-4	E420	0.00393 mg/L	0.004 mg/L	98.3	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0434 mg/L	0.04 mg/L	108	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00368 mg/L	0.004 mg/L	91.9	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0200 mg/L	0.02 mg/L	100	70.0	130	----
		Tin, total	7440-31-5	E420	0.0195 mg/L	0.02 mg/L	97.4	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0409 mg/L	0.04 mg/L	102	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0198 mg/L	0.02 mg/L	98.8	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0992 mg/L	0.1 mg/L	99.2	70.0	130	----
		Zinc, total	7440-66-6	E420	0.357 mg/L	0.4 mg/L	89.4	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0445 mg/L	0.04 mg/L	111	70.0	130	----
Total Metals (QCLot: 1550476)										
VA24B6236-005	Anonymous	Mercury, total	7439-97-6	E508	0.0000993 mg/L	0 mg/L	99.3	70.0	130	----
Dissolved Metals (QCLot: 1546305)										
FJ2402001-001	Anonymous	Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.89 mg/L	4 mg/L	97.2	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	2.01 mg/L	2 mg/L	100	70.0	130	----
Volatile Organic Compounds (QCLot: 1546838)										
KS2402661-003	Anonymous	Benzene	71-43-2	E611A	105 µg/L	100 µg/L	105	60.0	140	----
		Ethylbenzene	100-41-4	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Toluene	108-88-3	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	202 µg/L	200 µg/L	101	60.0	140	----
		Xylene, o-	95-47-6	E611A	101 µg/L	100 µg/L	101	60.0	140	----
Hydrocarbons (QCLot: 1546837)										
KS2402661-004	Anonymous	F1 (C6-C10)	----	E581.VH+F1	4820 µg/L	6310 µg/L	76.4	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Number: 14 -

Page 1 of 1

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Stantec Consulting Ltd.	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)		R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Natalie Normandeau	Quality Control (QC) Report with Report ☑ Yes ☐ No		P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	4910 53 St. PO Box 1777 Yellowknife, NT X1A 2P4	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX		E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	(204) 509-9864 (867) 920-2882	Email 1 or Fax natalie.normandeau@stantec.com		Specify Date Required for E2,E or P:
		Email 2 steve.hannington@stantec.com		**Analysis Request**
Invoice To	Same as Report To ☐ Yes ☑ No	**Invoice Distribution**		Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report ☐ Yes ☑ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX		
Company:	Stantec Consulting Ltd.	Email 1 or Fax SAPinvoices@stantec.com		
Contact:	—	Email 2 —		
Project Information		**Oil and Gas Required Fields (client use)**		
ALS Quote #:	YL24-STAC100-003	Approver ID:	Cost Center:	
Job #:	123515016	GL Account:	Routing Code:	
PO / AFE:	—	Activity Code:		
LSD:	—	Location:		
ALS Lab Work Order # (lab use only)		**ALS Contact:**	**Sampler:**	

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Groundwater Package	Surface Water Package SNP	Number of Containers
	GLG-2024-00002-013	10-Jul-24	10:05	SW		X	9
	GLG-2024-00002-010		10:55	SW		X	9
	GLG-2024-00002-012		12:10	SW		X	9
	GLG-2024-00002-011		13:15	SW		X	9
	GLG-2024-00002-006		10:50	GW	X		9
	GLG-2024-00002-019			GW	X		9
	GLG-2024-00002-003		12:15	GW	X		9
	GLG-2024-00002-004		13:10	GW	X		9
	GLG-2024-00002-001		14:10	GW	X		9
	GLG-2024-00002-002	10-Jul-24	15:00	GW	X		9

Environmental Division
Yellowknife
Work Order Reference
YL2400874

Telephone : +1 867 873 5693

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☒ No Are samples for human drinking water use? ☐ Yes ☒ No	—

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐			SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☐	No ☐		Custody seal intact	Yes ☐	No ☐	
Cooling Initiated	☐						

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
6.0					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: TAREK GHADIE	Date: 11-Jul-24	Time: 07:20	Received by:	Date: 11/24 JULY	Time: 9:40	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2400890**	Page	: 1 of 10
Amendment	: **2**		
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 12-Jul-2024 11:40
PO	: ----	Date Analysis Commenced	: 16-Jul-2024
C-O-C number	: ----	Issue Date	: 15-Aug-2024 11:51
Sampler	: Tarek Ghadieh		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Angelo Salandanan	Lab Assistant	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	*Comment*
YL2400890-001	GLG-2024-00002-009	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400890-002	GLG-2024-00002-020	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400890-003	GLG-2024-00002-014	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400890-004	GLG-2024-00002-017	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400890-005	GLG-2024-00002-015	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
YL2400890-006	GLG-2024-00002-016	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 2-009	GLG-2024-0000 2-020	GLG-2024-0000 2-014	GLG-2024-0000 2-017	GLG-2024-0000 2-015
					Client sampling date / time	11-Jul-2024 09:45	11-Jul-2024 00:00	11-Jul-2024 12:30	11-Jul-2024 13:05	11-Jul-2024 13:40
						YL2400890-001	YL2400890-002	YL2400890-003	YL2400890-004	YL2400890-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		41.9	41.8	41.0	41.3	81.5
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		41.9	41.8	41.0	41.3	81.5
Conductivity	----	E100/VA	2.0	µS/cm		105	105	104	104	182
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		44.0	45.0	42.4	44.1	87.0
pH	----	E108/VA	0.10	pH units		7.87	7.86	7.86	7.86	8.10
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		62.8	62.2	50.5	50.2	130
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		3.1	3.1	<1.0	<1.0	<1.0
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		45.4	45.3	44.9	42.7	84.8
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		<0.0050	<0.0050	<0.0050	0.0054	0.0199
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		1.43	1.43	1.42	1.42	0.62
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		<0.0050	0.0231	<0.0050	<0.0050	<0.0050
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		<0.022	0.102	<0.022	<0.022	<0.022
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		<0.0051	0.0231	<0.0051	<0.0051	<0.0051
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0051	0.0046	0.0037	0.0040	0.0173
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		7.94	7.90	7.72	7.72	8.67
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		2.95	2.70	2.95	2.94	25.0
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0251	0.0251	0.0100	0.0119	0.0165

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 2-009	GLG-2024-0000 2-020	GLG-2024-0000 2-014	GLG-2024-0000 2-017	GLG-2024-0000 2-015
					Client sampling date / time	11-Jul-2024 09:45	11-Jul-2024 00:00	11-Jul-2024 12:30	11-Jul-2024 13:05	11-Jul-2024 13:40
						YL2400890-001	YL2400890-002	YL2400890-003	YL2400890-004	YL2400890-005
						Result	Result	Result	Result	Result
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00053	0.00053	0.00032	0.00033	0.00479
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00443	0.00440	0.00459	0.00465	0.0160
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		12.5	12.7	11.9	12.5	22.2
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	0.000021
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	0.00047
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00064	0.00065	0.00055	0.00059	<0.00050
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.024	0.028	<0.010	<0.010	0.052
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0020	0.0021	0.0020	0.0021	0.0074
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		3.10	3.22	3.07	3.14	7.66
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00294	0.00310	0.00224	0.00288	0.0271
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000112	0.000109	0.000084	0.000100	0.000097
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	0.00885
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.65	1.68	1.64	1.66	3.25
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00231	0.00225	0.00213	0.00211	0.00446
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		0.22	0.23	0.16	0.15	0.25
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		2.33	2.45	2.43	2.38	5.62
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0475	0.0468	0.0457	0.0460	0.109
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		2.16	2.51	2.61	2.51	3.68
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 2-009	GLG-2024-0000 2-020	GLG-2024-0000 2-014	GLG-2024-0000 2-017	GLG-2024-0000 2-015
					Client sampling date / time	11-Jul-2024 09:45	11-Jul-2024 00:00	11-Jul-2024 12:30	11-Jul-2024 13:05	11-Jul-2024 13:40
						YL2400890-001	YL2400890-002	YL2400890-003	YL2400890-004	YL2400890-005
						Result	Result	Result	Result	Result
Total Metals										
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		0.00083	0.00086	<0.00030	<0.00030	<0.00030
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000131	0.000131	0.000106	0.000103	0.000057
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		12.6	12.6	12.7	11.9	22.3
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		3.38	3.36	3.21	3.16	7.06
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.56	1.56	1.51	1.50	2.74
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		2.54	2.55	2.46	2.41	5.24
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	<0.40	<0.40	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Hydrocarbons										
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	<100	<100	<100
F2 (C10-C16)	----	E601/VA	300	µg/L		<300	<300	<300	<300	<300
F3 (C16-C34)	----	E601/VA	300	µg/L		<300	<300	<300	<300	<300
F4 (C34-C50)	----	E601/VA	300	µg/L		<300	<300	<300	<300	<300
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	<100	<100	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		88.7	84.1	89.0	85.1	85.2

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00002-009	GLG-2024-00002-020	GLG-2024-00002-014	GLG-2024-00002-017	GLG-2024-00002-015
					Client sampling date / time	11-Jul-2024 09:45	11-Jul-2024 00:00	11-Jul-2024 12:30	11-Jul-2024 13:05	11-Jul-2024 13:40
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400890-001	YL2400890-002	YL2400890-003	YL2400890-004	YL2400890-005
						Result	Result	Result	Result	Result
Hydrocarbons Surrogates										
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%		101	103	112	111	107
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		79.8	76.8	81.2	72.7	82.9
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		97.4	93.9	98.4	94.2	95.7

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00002-016	GLG-2024-00002-023	GLG-2024-00002-022	----	----
					Client sampling date / time	11-Jul-2024 14:10	11-Jul-2024 14:15	11-Jul-2024 14:20	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400890-006	YL2400890-007	YL2400890-008	--------	--------
						Result	Result	Result	----	----
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		41.5	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		41.5	----	----	----	----
Conductivity	----	E100/VA	2.0	µS/cm		103	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		44.4	----	----	----	----
pH	----	E108/VA	0.10	pH units		7.85	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		57.2	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		<1.0	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		43.8	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		<0.0050	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		1.42	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		<0.0050	----	----	----	----
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		<0.022	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		<0.0051	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		<0.0010	----	----	----	----
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		<0.0033	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		<0.0010	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0032	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		7.14	----	----	----	----
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		2.90	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0279	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00002-016	GLG-2024-00002-023	GLG-2024-00002-022	----	----
					Client sampling date / time	11-Jul-2024 14:10	11-Jul-2024 14:15	11-Jul-2024 14:20	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400890-006	YL2400890-007	YL2400890-008	--------	--------
						Result	Result	Result	----	----
Total Metals										
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00034	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00478	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		12.6	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00057	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.024	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0021	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		3.13	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00362	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000092	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.68	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00219	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		0.17	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		2.45	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0472	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		2.48	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00002-016	GLG-2024-00002-023	GLG-2024-00002-022	----	----
					Client sampling date / time	11-Jul-2024 14:10	11-Jul-2024 14:15	11-Jul-2024 14:20	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400890-006	YL2400890-007	YL2400890-008	--------	--------
						Result	Result	Result	----	----
Total Metals										
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		0.00082	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000104	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		12.2	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		3.24	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.54	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		2.50	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	----	----	----	----
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	<0.40	----	----
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	<0.30	----	----
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	<100	----	----
F2 (C10-C16)	----	E601/VA	300	µg/L		<300	<300	<300	----	----
F3 (C16-C34)	----	E601/VA	300	µg/L		<300	<300	<300	----	----
F4 (C34-C50)	----	E601/VA	300	µg/L		<300	<300	<300	----	----
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	<100	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		87.5	85.7	90.0	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		113	108	107	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00002-016	GLG-2024-00002-023	GLG-2024-00002-022	----	----
					Client sampling date / time	11-Jul-2024 14:10	11-Jul-2024 14:15	11-Jul-2024 14:20	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400890-006	YL2400890-007	YL2400890-008	--------	--------
						Result	Result	Result	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		72.8	71.9	86.5	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		96.3	94.1	95.1	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2400890**	Page	: 1 of 22
Amendment	: **2**		
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 12-Jul-2024 11:40
PO	: ----	Issue Date	: 15-Aug-2024 11:52
C-O-C number	: ----		
Sampler	: Tarek Ghadieh		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-020	E298	11-Jul-2024	17-Jul-2024	28 days	5 days	✓	18-Jul-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-014	E298	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	18-Jul-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-015	E298	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	18-Jul-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-016	E298	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	18-Jul-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-017	E298	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	18-Jul-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-009	E298	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	18-Jul-2024	28 days	8 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-009	E235.Cl	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-014	E235.Cl	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-015	E235.Cl	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-016	E235.Cl	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-017	E235.Cl	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00002-020	E235.Cl	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-009	E378-U	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	17-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-014	E378-U	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	17-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-015	E378-U	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	17-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-016	E378-U	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	17-Jul-2024	3 days	5 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-017	E378-U	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	17-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00002-020	E378-U	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	17-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-009	E235.NO3-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-014	E235.NO3-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-015	E235.NO3-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-016	E235.NO3-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-017	E235.NO3-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00002-020	E235.NO3-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00002-009	E235.NO2-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00002-014	E235.NO2-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00002-015	E235.NO2-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00002-016	E235.NO2-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00002-017	E235.NO2-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00002-020	E235.NO2-L	11-Jul-2024	16-Jul-2024	3 days	5 days	× EHT	16-Jul-2024	3 days	5 days	× EHT
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00002-009	E235.SO4	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00002-014	E235.SO4	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00002-015	E235.SO4	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00002-016	E235.SO4	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00002-017	E235.SO4	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00002-020	E235.SO4	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	16-Jul-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00002-020	E372-U	11-Jul-2024	17-Jul-2024	28 days	5 days	✓	19-Jul-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00002-014	E372-U	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	19-Jul-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00002-015	E372-U	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	19-Jul-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00002-016	E372-U	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	19-Jul-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00002-017	E372-U	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	19-Jul-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00002-009	E372-U	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	19-Jul-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
GLG-2024-00002-009	E421	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
GLG-2024-00002-014	E421	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
GLG-2024-00002-015	E421	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
GLG-2024-00002-016	E421	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
GLG-2024-00002-017	E421	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
GLG-2024-00002-020	E421	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00002-009	E601	11-Jul-2024	18-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00002-014	E601	11-Jul-2024	18-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00002-015	E601	11-Jul-2024	18-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00002-016	E601	11-Jul-2024	18-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-017	E601	11-Jul-2024	18-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-020	E601	11-Jul-2024	18-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-022	E601	11-Jul-2024	18-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00002-023	E601	11-Jul-2024	18-Jul-2024	14 days	7 days	✓	18-Jul-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-009	E581.VH+F1	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-014	E581.VH+F1	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-015	E581.VH+F1	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-016	E581.VH+F1	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-017	E581.VH+F1	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-020	E581.VH+F1	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-022	E581.VH+F1	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00002-023	E581.VH+F1	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-020	E355-L	11-Jul-2024	17-Jul-2024	28 days	5 days	✓	17-Jul-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-009	E355-L	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	17-Jul-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-014	E355-L	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	17-Jul-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-015	E355-L	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	17-Jul-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-016	E355-L	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	17-Jul-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-017	E355-L	11-Jul-2024	17-Jul-2024	28 days	6 days	✓	17-Jul-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-009	E290	11-Jul-2024	16-Jul-2024	14 days	5 days	✓	17-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-014	E290	11-Jul-2024	16-Jul-2024	14 days	5 days	✓	17-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-015	E290	11-Jul-2024	16-Jul-2024	14 days	5 days	✓	17-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-016	E290	11-Jul-2024	16-Jul-2024	14 days	5 days	✓	17-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-017	E290	11-Jul-2024	16-Jul-2024	14 days	5 days	✓	17-Jul-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00002-020	E290	11-Jul-2024	16-Jul-2024	14 days	5 days	✓	17-Jul-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-009	E100	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	17-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-014	E100	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	17-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-015	E100	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	17-Jul-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-016	E100	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	17-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-017	E100	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	17-Jul-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00002-020	E100	11-Jul-2024	16-Jul-2024	28 days	5 days	✓	17-Jul-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-020	E108	11-Jul-2024	16-Jul-2024	0.25 hrs	123 hrs	× EHTR-FM	17-Jul-2024	0.25 hrs	139 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-015	E108	11-Jul-2024	16-Jul-2024	0.25 hrs	125 hrs	× EHTR-FM	17-Jul-2024	0.25 hrs	140 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-017	E108	11-Jul-2024	16-Jul-2024	0.25 hrs	125 hrs	× EHTR-FM	17-Jul-2024	0.25 hrs	141 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-014	E108	11-Jul-2024	16-Jul-2024	0.25 hrs	126 hrs	× EHTR-FM	17-Jul-2024	0.25 hrs	141 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-016	E108	11-Jul-2024	16-Jul-2024	0.25 hrs	127 hrs	× EHTR-FM	17-Jul-2024	0.25 hrs	139 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00002-009	E108	11-Jul-2024	16-Jul-2024	0.25 hrs	128 hrs	× EHTR-FM	17-Jul-2024	0.25 hrs	144 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-009	E162-L	11-Jul-2024	----	----	----		18-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-014	E162-L	11-Jul-2024	----	----	----		18-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-015	E162-L	11-Jul-2024	----	----	----		18-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-016	E162-L	11-Jul-2024	----	----	----		18-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-017	E162-L	11-Jul-2024	----	----	----		18-Jul-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00002-020	E162-L	11-Jul-2024	----	----	----		18-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-009	E160-L	11-Jul-2024	----	----	----		19-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-014	E160-L	11-Jul-2024	----	----	----		19-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-015	E160-L	11-Jul-2024	----	----	----		19-Jul-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-016	E160-L	11-Jul-2024	----	----	----		19-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-017	E160-L	11-Jul-2024	----	----	----		19-Jul-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00002-020	E160-L	11-Jul-2024	----	----	----		19-Jul-2024	7 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-016	E508	11-Jul-2024	17-Jul-2024	0 hrs	147 hrs	× UCP	17-Jul-2024	0 hrs	147 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-020	E508	11-Jul-2024	17-Jul-2024	0 hrs	147 hrs	× UCP	17-Jul-2024	0 hrs	147 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-015	E508	11-Jul-2024	17-Jul-2024	0 hrs	148 hrs	× UCP	17-Jul-2024	0 hrs	148 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-017	E508	11-Jul-2024	17-Jul-2024	0 hrs	148 hrs	× UCP	17-Jul-2024	0 hrs	148 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-014	E508	11-Jul-2024	17-Jul-2024	0 hrs	149 hrs	× UCP	17-Jul-2024	0 hrs	149 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
HDPE GLG-2024-00002-009	E508	11-Jul-2024	17-Jul-2024	0 hrs	152 hrs	× UCP	17-Jul-2024	0 hrs	152 hrs	× UCP

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00002-009	E420	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00002-014	E420	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00002-015	E420	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00002-016	E420	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00002-017	E420	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00002-020	E420	11-Jul-2024	18-Jul-2024	180 days	7 days	✓	19-Jul-2024	180 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-009	E611A	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-014	E611A	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-015	E611A	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-016	E611A	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-017	E611A	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-020	E611A	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-022	E611A	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00002-023	E611A	11-Jul-2024	17-Jul-2024	14 days	6 days	✓	17-Jul-2024	14 days	6 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1548077	2	23	8.7	5.0	✓
Ammonia by Fluorescence	E298	1548476	1	8	12.5	5.0	✓
BTEX by Headspace GC-MS	E611A	1549011	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1548080	2	16	12.5	5.0	✓
Conductivity in Water	E100	1548078	2	26	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1550713	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1548087	2	23	8.7	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1548082	2	23	8.7	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1548083	2	23	8.7	5.0	✓
pH by Meter	E108	1548076	2	40	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1548084	2	23	8.7	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1552916	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1550476	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1550641	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1548474	1	8	12.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1548471	1	17	5.8	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1549008	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1548077	2	23	8.7	5.0	✓
Ammonia by Fluorescence	E298	1548476	1	8	12.5	5.0	✓
BTEX by Headspace GC-MS	E611A	1549011	1	8	12.5	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1550702	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1548080	2	16	12.5	5.0	✓
Conductivity in Water	E100	1548078	2	26	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1550713	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1548087	2	23	8.7	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1548082	2	23	8.7	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1548083	2	23	8.7	5.0	✓
pH by Meter	E108	1548076	2	40	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1548084	2	23	8.7	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1552916	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1550476	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1550641	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1548474	1	8	12.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1548471	1	17	5.8	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1552913	1	15	6.6	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
VH and F1 by Headspace GC-FID	E581.VH+F1	1549008	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1548077	2	23	8.7	5.0	✓
Ammonia by Fluorescence	E298	1548476	1	8	12.5	5.0	✓
BTEX by Headspace GC-MS	E611A	1549011	1	8	12.5	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1550702	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1548080	2	16	12.5	5.0	✓
Conductivity in Water	E100	1548078	2	26	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1550713	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1548087	2	23	8.7	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1548082	2	23	8.7	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1548083	2	23	8.7	5.0	✓
Sulfate in Water by IC	E235.SO4	1548084	2	23	8.7	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1552916	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1550476	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1550641	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1548474	1	8	12.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1548471	1	17	5.8	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1552913	1	15	6.6	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1549008	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1548476	1	8	12.5	5.0	✓
BTEX by Headspace GC-MS	E611A	1549011	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1548080	2	16	12.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1550713	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1548087	2	23	8.7	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1548082	2	23	8.7	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1548083	2	23	8.7	5.0	✓
Sulfate in Water by IC	E235.SO4	1548084	2	23	8.7	5.0	✓
Total Mercury in Water by CVAAS	E508	1550476	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1550641	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1548474	1	8	12.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1548471	1	17	5.8	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1549008	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Vancouver	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Vancouver	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Nitrite (as N) converted to Nitrite (as NO2)	EC235.NO2A ALS Environmental - Vancouver	Water	Calculation	Nitrite by IC measured as N is converted to the NO2 form by calculation.
Nitrate (as N) converted to Nitrate (as NO3)	EC235.NO3A ALS Environmental - Vancouver	Water	Calculation	Nitrate by IC measured as N is converted to the NO3 form by calculation.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **YL2400890**	Page	: 1 of 17
Amendment	: **2**		
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 12-Jul-2024 11:40
PO	: ----	Date Analysis Commenced	: 16-Jul-2024
C-O-C number	: ----	Issue Date	: 15-Aug-2024 11:52
Sampler	: Tarek Ghadieh		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
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General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1548076)											
FJ2402040-003	Anonymous	pH	----	E108	0.10	pH units	8.22	8.21	0.122%	4%	----
Physical Tests (QC Lot: 1548077)											
FJ2402040-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	90.2	90.0	0.224%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	90.2	90.0	0.224%	20%	----
Physical Tests (QC Lot: 1548078)											
FJ2402040-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	178	178	0.113%	10%	----
Physical Tests (QC Lot: 1548291)											
FJ2402017-001	Anonymous	pH	----	E108	0.10	pH units	8.06	8.09	0.372%	4%	----
Physical Tests (QC Lot: 1548292)											
FJ2402017-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	724	725	0.138%	10%	----
Physical Tests (QC Lot: 1548293)											
YL2400898-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	34.5	33.3	3.57%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	34.5	33.3	3.57%	20%	----
Physical Tests (QC Lot: 1552916)											
YL2400886-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	227	193	16.2%	20%	----
Anions and Nutrients (QC Lot: 1548080)											
FJ2402040-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	4.05	4.05	0.007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1548082)											
FJ2402040-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1548083)											
FJ2402040-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1548084)											
FJ2402040-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	7.13	7.12	0.188%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1548087)											
FJ2402040-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1548290)											
VA24B7156-006	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1548294)											
VA24B7156-006	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1548296)											
VA24B7156-006	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1548297)											
VA24B7156-006	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	<0.30	<0.30	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1548298)											
VA24B7156-006	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1548471)											
VA24B6802-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0027	0.0028	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1548476)											
VA24B7105-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1548474)											
VA24B7105-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	2.48	2.71	0.23	Diff <2x LOR	----
Total Metals (QC Lot: 1550476)											
VA24B6236-004	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1550641)											
FJ2402029-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0060	mg/L	0.467	0.509	8.73%	20%	----
		Antimony, total	7440-36-0	E420	0.00020	mg/L	0.00384	0.00380	1.03%	20%	----
		Arsenic, total	7440-38-2	E420	0.00020	mg/L	0.00197	0.00206	4.36%	20%	----
		Barium, total	7440-39-3	E420	0.00020	mg/L	0.133	0.135	1.37%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.020	mg/L	0.396	0.411	3.69%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000100	mg/L	0.000180	0.000164	9.13%	20%	----
		Calcium, total	7440-70-2	E420	0.100	mg/L	26.4	26.3	0.495%	20%	----
		Cesium, total	7440-46-2	E420	0.000020	mg/L	0.000521	0.000508	2.52%	20%	----
		Chromium, total	7440-47-3	E420	0.00100	mg/L	0.00121	0.00130	0.00008	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00020	mg/L	0.00227	0.00224	1.13%	20%	----
		Copper, total	7440-50-8	E420	0.00100	mg/L	0.00298	0.00304	0.00006	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.020	mg/L	1.14	1.12	1.50%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1550641) - continued											
FJ2402029-001	Anonymous	Lead, total	7439-92-1	E420	0.000100	mg/L	0.00151	0.00156	3.03%	20%	----
		Lithium, total	7439-93-2	E420	0.0020	mg/L	0.396	0.403	1.70%	20%	----
		Magnesium, total	7439-95-4	E420	0.0100	mg/L	12.0	12.1	1.25%	20%	----
		Manganese, total	7439-96-5	E420	0.00020	mg/L	0.0166	0.0165	0.977%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000100	mg/L	0.0190	0.0188	0.770%	20%	----
		Nickel, total	7440-02-0	E420	0.00100	mg/L	0.0180	0.0181	0.189%	20%	----
		Phosphorus, total	7723-14-0	E420	0.100	mg/L	<0.100	0.114	0.014	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.100	mg/L	3.24	3.35	3.26%	20%	----
		Rubidium, total	7440-17-7	E420	0.00040	mg/L	0.00779	0.00795	2.06%	20%	----
		Selenium, total	7782-49-2	E420	0.000100	mg/L	0.00424	0.00431	1.52%	20%	----
		Silicon, total	7440-21-3	E420	0.20	mg/L	3.26	3.30	1.31%	20%	----
		Silver, total	7440-22-4	E420	0.000020	mg/L	0.000040	0.000043	0.000003	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.100	mg/L	380	384	1.25%	20%	----
		Strontium, total	7440-24-6	E420	0.00040	mg/L	0.0981	0.0974	0.680%	20%	----
		Sulfur, total	7704-34-9	E420	1.00	mg/L	87.7	86.8	1.04%	20%	----
		Tellurium, total	13494-80-9	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000020	mg/L	0.000067	0.000068	0.0000008	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00060	mg/L	0.00193	0.00270	0.00077	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000020	mg/L	0.00920	0.00938	2.00%	20%	----
		Vanadium, total	7440-62-2	E420	0.00100	mg/L	0.00514	0.00538	0.00024	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0060	mg/L	0.0179	0.0165	0.0014	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1550713)											
FJ2402027-001	Anonymous	Calcium, dissolved	7440-70-2	E421	0.100	mg/L	3.37	3.43	1.82%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	1.30	1.32	1.44%	20%	----
		Potassium, dissolved	7440-09-7	E421	0.100	mg/L	0.518	0.526	0.008	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.100	mg/L	307	316	2.76%	20%	----
Volatile Organic Compounds (QC Lot: 1549011)											
YL2400890-001	GLG-2024-00002-009	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1549011) - continued											
YL2400890-001	GLG-2024-00002-009	Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1549008)											
FJ2402027-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1548077)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1548078)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1548292)						
Conductivity	----	E100	1	µS/cm	1.6	----
Physical Tests (QCLot: 1548293)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1552913)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1552916)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1548080)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1548082)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1548083)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1548084)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1548087)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1548290)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1548294)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1548294) - continued						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1548296)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1548297)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1548298)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1548471)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1548476)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1548474)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1550476)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1550641)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1550641) - continued						
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1550713)						
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Volatile Organic Compounds (QCLot: 1549011)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1549008)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1550702)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1550702) - continued						
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1548076)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1548077)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	87.4	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	91.1	85.0	115	----
Physical Tests (QCLot: 1548078)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	98.8	90.0	110	----
Physical Tests (QCLot: 1548291)									
pH	----	E108	----	pH units	7 pH units	99.8	98.0	102	----
Physical Tests (QCLot: 1548292)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	99.0	90.0	110	----
Physical Tests (QCLot: 1548293)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	86.5	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	93.3	85.0	115	----
Physical Tests (QCLot: 1552913)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	92.3	85.0	115	----
Physical Tests (QCLot: 1552916)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	99.0	85.0	115	----
Anions and Nutrients (QCLot: 1548080)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.3	90.0	110	----
Anions and Nutrients (QCLot: 1548082)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 1548083)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	99.9	90.0	110	----
Anions and Nutrients (QCLot: 1548084)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.6	90.0	110	----
Anions and Nutrients (QCLot: 1548087)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	93.2	80.0	120	----
Anions and Nutrients (QCLot: 1548290)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	93.5	80.0	120	----
Anions and Nutrients (QCLot: 1548294)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100.0	90.0	110	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1548296)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1548297)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1548298)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1548471)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	92.0	80.0	120	----
Anions and Nutrients (QCLot: 1548476)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	105	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1548474)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	95.8	80.0	120	----
Total Metals (QCLot: 1550476)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	101	80.0	120	----
Total Metals (QCLot: 1550641)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	105	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	106	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	105	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	109	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	102	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	103	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	95.5	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	100	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	98.7	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	100	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	98.5	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	104	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	103	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	103	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	100	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1550641) - continued									
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	112	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	113	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	96.0	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	106	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	95.7	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	100	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	92.7	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	95.6	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	103	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	97.5	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.4	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	105	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.5	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	101	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	106	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	103	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	95.7	80.0	120	----
Dissolved Metals (QCLot: 1550713)									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	104	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	111	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	107	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	113	80.0	120	----
Volatile Organic Compounds (QCLot: 1549011)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	89.8	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	88.2	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	88.3	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	89.5	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	85.6	70.0	130	----
Hydrocarbons (QCLot: 1549008)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	77.5	70.0	130	----
Hydrocarbons (QCLot: 1550702)									

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Hydrocarbons (QCLot: 1550702) - continued									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	96.3	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	91.4	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	99.0	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1548080)										
FJ2402040-002	Anonymous	Chloride	16887-00-6	E235.Cl	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1548082)										
FJ2402040-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.54 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1548083)										
FJ2402040-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.520 mg/L	0.5 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1548084)										
FJ2402040-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1548087)										
FJ2402040-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0291 mg/L	0.03 mg/L	96.9	70.0	130	----
Anions and Nutrients (QCLot: 1548290)										
YL2400890-006	GLG-2024-00002-016	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0283 mg/L	0.03 mg/L	94.3	70.0	130	----
Anions and Nutrients (QCLot: 1548294)										
VA24B7156-006	Anonymous	Chloride	16887-00-6	E235.Cl	100 mg/L	100 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1548296)										
VA24B7156-006	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.51 mg/L	2.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1548297)										
VA24B7156-006	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1548298)										
VA24B7156-006	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.505 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1548471)										
VA24B6807-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0466 mg/L	0.05 mg/L	93.2	70.0	130	----
Anions and Nutrients (QCLot: 1548476)										
VA24B7145-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.104 mg/L	0.1 mg/L	104	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1548474)										
VA24B7145-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.06 mg/L	5 mg/L	101	70.0	130	----
Total Metals (QCLot: 1550476)										
VA24B6236-005	Anonymous	Mercury, total	7439-97-6	E508	0.0000993 mg/L	0 mg/L	99.3	70.0	130	----
Total Metals (QCLot: 1550641)										
FJ2402029-002	Anonymous	Aluminum, total	7429-90-5	E420	0.168 mg/L	0.2 mg/L	83.9	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0178 mg/L	0.02 mg/L	88.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0195 mg/L	0.02 mg/L	97.7	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1550641) - continued										
FJ2402029-002	Anonymous	Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0352 mg/L	0.04 mg/L	88.1	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00836 mg/L	0.01 mg/L	83.6	70.0	130	----
		Boron, total	7440-42-8	E420	0.097 mg/L	0.1 mg/L	97.4	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00367 mg/L	0.004 mg/L	91.8	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00904 mg/L	0.01 mg/L	90.4	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0357 mg/L	0.04 mg/L	89.3	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0174 mg/L	0.02 mg/L	87.0	70.0	130	----
		Copper, total	7440-50-8	E420	0.0171 mg/L	0.02 mg/L	85.6	70.0	130	----
		Iron, total	7439-89-6	E420	1.72 mg/L	2 mg/L	86.0	70.0	130	----
		Lead, total	7439-92-1	E420	0.0166 mg/L	0.02 mg/L	82.9	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0806 mg/L	0.1 mg/L	80.6	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0174 mg/L	0.02 mg/L	86.9	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0185 mg/L	0.02 mg/L	92.7	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0332 mg/L	0.04 mg/L	83.1	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.50 mg/L	10 mg/L	95.0	70.0	130	----
		Potassium, total	7440-09-7	E420	3.29 mg/L	4 mg/L	82.2	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0185 mg/L	0.02 mg/L	92.7	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0404 mg/L	0.04 mg/L	101	70.0	130	----
		Silicon, total	7440-21-3	E420	8.31 mg/L	10 mg/L	83.1	70.0	130	----
		Silver, total	7440-22-4	E420	0.00356 mg/L	0.004 mg/L	88.9	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0380 mg/L	0.04 mg/L	95.0	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00330 mg/L	0.004 mg/L	82.4	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0173 mg/L	0.02 mg/L	86.7	70.0	130	----
		Tin, total	7440-31-5	E420	0.0183 mg/L	0.02 mg/L	91.5	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0366 mg/L	0.04 mg/L	91.6	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0175 mg/L	0.02 mg/L	87.6	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0916 mg/L	0.1 mg/L	91.6	70.0	130	----
		Zinc, total	7440-66-6	E420	0.346 mg/L	0.4 mg/L	86.6	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0370 mg/L	0.04 mg/L	92.4	70.0	130	----
Dissolved Metals (QCLot: 1550713)										
FJ2402027-002	Anonymous	Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	4.06 mg/L	4 mg/L	101	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
Volatile Organic Compounds (QCLot: 1549011)										
YL2400890-001	GLG-2024-00002-009	Benzene	71-43-2	E611A	95.8 µg/L	100 µg/L	95.8	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1549011) - continued										
YL2400890-001	GLG-2024-00002-009	Ethylbenzene	100-41-4	E611A	92.6 µg/L	100 µg/L	92.6	60.0	140	----
		Toluene	108-88-3	E611A	93.1 µg/L	100 µg/L	93.1	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	196 µg/L	200 µg/L	97.8	60.0	140	----
		Xylene, o-	95-47-6	E611A	92.0 µg/L	100 µg/L	92.0	60.0	140	----
Hydrocarbons (QCLot: 1549008)										
FJ2402027-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5740 µg/L	6310 µg/L	91.0	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 22 -

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	Stantec Consulting Ltd.
Contact:	Natalie Normandeau
Phone:	204 509-9864
	Company address below will appear on the final report
Street:	4910 53 Street
City/Province:	Yellowknife/NT
Postal Code:	X1A 2P4
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	—
Contact:	—

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☑ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: natalie.normandeau@stantec.com

Email 2: steve.hannington@stantec.com

Email 3: ryan.weber@stantec.com

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: SAPinvoices@stantec.com

Email 2: —

Turnaround Time (TAT) Requested

☒ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

For all tests with rush TATs requested, please contact your AM to confirm availability.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information

ALS Client Code / QUOTE #: YL24-STAC100-0003

Job / Project #: Gordon Lake - Phase I LTMP - Water

PO / AFE:

LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#:

Major/Minor Code: Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (ALS use only):

ALS Contact:

Sampler: T. Ghadieh

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	GroundWater Package F/UF	Surface Water Package SNP F/UF	Surface Water Package West Bay 1 F/UF	Surface Water Package West Bay 2 F/UF	Water QC F/UF	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	GLG-2024-00002-009	11-Jul-24	09:45	SW	9		X						
	GLG-2024-00002-020	11-Jul-24	—	SW	9		X						
	GLG-2024-00002-014	11-Jul-24	12:30	SW	9		X						
	GLG-2024-00002-017	11-Jul-24	13:05	SW	9		X						
	GLG-2024-00002-015	11-Jul-24	13:40	SW	9		X						
	GLG-2024-00002-016	11-Jul-24	14:10	SW	9		X						
	GLG-2024-00002-023	11-Jul-24	14:15	GW	4					X			
	GLG-2024-00002-022	11-Jul-24	14:20	GW	4					X			

Environmental Division
Yellowknife
Work Order Reference
YL2400890

Telephone : +1 867 873 5593

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☒ NO

Are samples for human consumption/ use? ☐ YES ☒ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
6.6							

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
TAREK GHADIEH	2024/07/12	07:40

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
	12-Jul	11:40

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

MAY 2023 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form.**

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2400921**	Page	: 1 of 4
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 16-Jul-2024 14:30
PO	: ----	Date Analysis Commenced	: 20-Jul-2024
C-O-C number	: ----	Issue Date	: 24-Jul-2024 11:57
Sampler	: Tarek Ghadieh		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Inorganics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.
Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	*Comment*
YL2400921-001	GLG-2024-00002-005	Water sample for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

Qualifiers

Qualifier	*Description*
DLA	*Detection Limit adjusted for required dilution.*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00002-005	----	----	----	----
					Client sampling date / time	16-Jul-2024 09:15	----	----	----	----
						YL2400921-001	--------	--------	--------	--------
						Result	----	----	----	----
Physical Tests										
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		1320	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.396	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.109	----	----	----	----
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		7.72	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.246	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		0.00114	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00757	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0643	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100 DLA	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000100 DLA	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.048	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.0000860	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		465	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000020 DLA	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		0.00110	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.0147	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00195	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		6.80	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.00138	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0034	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		39.0	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		2.83	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.00956	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.0291	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		0.113	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		14.2	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00002-005	----	----	----	----
					Client sampling date / time	16-Jul-2024 09:15	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2400921-001	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00275	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.000364	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		5.87	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		0.000069	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		41.3	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		1.96	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		387	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00040 DLA	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000020 DLA	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00020 DLA	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		0.00062	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00480 DLM	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00020 DLA	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.0181	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		0.00103	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0064	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		0.00051	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2400921**	Page	: 1 of 6
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 16-Jul-2024 14:30
PO	: ----	Issue Date	: 24-Jul-2024 11:58
C-O-C number	: ----		
Sampler	: Tarek Ghadieh		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00002-005	E298	16-Jul-2024	21-Jul-2024	28 days	5 days	✓	22-Jul-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00002-005	E372-U	16-Jul-2024	21-Jul-2024	28 days	5 days	✓	23-Jul-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00002-005	E355-L	16-Jul-2024	21-Jul-2024	28 days	5 days	✓	21-Jul-2024	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved) GLG-2024-00002-005	E508	16-Jul-2024	23-Jul-2024	0 hrs	160 hrs	× UCP	23-Jul-2024	0 hrs	160 hrs	× UCP
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00002-005	E420	16-Jul-2024	20-Jul-2024	180 days	4 days	✓	23-Jul-2024	180 days	7 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Ammonia by Fluorescence	E298	1556796	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1558861	1	7	14.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1554810	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1556798	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1556795	1	17	5.8	5.0	✓
Laboratory Control Samples (LCS)							
Ammonia by Fluorescence	E298	1556796	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1558861	1	7	14.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1554810	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1556798	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1556795	1	17	5.8	5.0	✓
Method Blanks (MB)							
Ammonia by Fluorescence	E298	1556796	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1558861	1	7	14.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1554810	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1556798	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1556795	1	17	5.8	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1556796	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1558861	1	7	14.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1554810	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1556798	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1556795	1	17	5.8	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in $CaCO_3$ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **YL2400921**	Page	: 1 of 10
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 123515016	Date Samples Received	: 16-Jul-2024 14:30
PO	: ----	Date Analysis Commenced	: 20-Jul-2024
C-O-C number	: ----	Issue Date	: 24-Jul-2024 11:57
Sampler	: Tarek Ghadieh		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
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General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1556795)											
KS2402644-005	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0400	mg/L	1.97	1.99	0.892%	20%	----
Anions and Nutrients (QC Lot: 1556796)											
KS2402665-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1556798)											
KS2402662-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	5.12	5.77	11.9%	20%	----
Total Metals (QC Lot: 1554810)											
FJ2402064-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0129	0.0129	0.00003	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00354	0.00355	0.285%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.337	0.344	1.99%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.240	0.241	0.709%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	86.6	89.5	3.21%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000012	0.000011	0.000001	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00075	0.00076	0.00001	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	15.2	15.4	0.720%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0707	0.0714	0.989%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	20.1	20.6	2.31%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.957	0.994	3.77%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00559	0.00560	0.323%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00054	0.00056	0.00002	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	1.54	1.59	3.60%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00242	0.00244	0.528%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1554810) - continued											
FJ2402064-001	Anonymous	Silicon, total	7440-21-3	E420	0.10	mg/L	6.11	6.15	0.747%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	40.7	42.0	3.03%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.385	0.391	1.44%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	1.36	1.28	0.08	Diff <2x LOR	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000478	0.000472	1.31%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1558861)											
YL2400913-002	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1556795)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1556796)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1556798)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1554810)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1554810) - continued						
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 1558861)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1556795)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	96.3	80.0	120	----
Anions and Nutrients (QCLot: 1556796)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	104	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1556798)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Total Metals (QCLot: 1554810)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	112	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	109	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	100	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	101	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	89.2	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	102	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.5	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	108	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	97.0	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	100	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	95.2	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	106	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	108	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	107	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	114	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	110	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	105	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	111	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1554810) - continued									
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	100	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	110	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	102	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	104	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	106	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	100	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	98.5	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	103	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	105	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	106	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	103	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.2	80.0	120	----
Total Metals (QCLot: 1558861)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	100	80.0	120	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1556795)										
VA24B6636-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0487 mg/L	0.05 mg/L	97.4	70.0	130	----
Anions and Nutrients (QCLot: 1556796)										
KS2402662-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	MS-B
Organic / Inorganic Carbon (QCLot: 1556798)										
VA24B6849-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.20 mg/L	5 mg/L	104	70.0	130	----
Total Metals (QCLot: 1554810)										
FJ2402064-002	Anonymous	Aluminum, total	7429-90-5	E420	0.202 mg/L	0.2 mg/L	101	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0211 mg/L	0.02 mg/L	106	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0391 mg/L	0.04 mg/L	97.8	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00926 mg/L	0.01 mg/L	92.6	70.0	130	----
		Boron, total	7440-42-8	E420	0.090 mg/L	0.1 mg/L	90.2	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00401 mg/L	0.004 mg/L	100	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0102 mg/L	0.01 mg/L	102	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0410 mg/L	0.04 mg/L	102	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0195 mg/L	0.02 mg/L	97.3	70.0	130	----
		Copper, total	7440-50-8	E420	0.0192 mg/L	0.02 mg/L	96.2	70.0	130	----
		Iron, total	7439-89-6	E420	1.92 mg/L	2 mg/L	95.8	70.0	130	----
		Lead, total	7439-92-1	E420	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0916 mg/L	0.1 mg/L	91.6	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0210 mg/L	0.02 mg/L	105	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0385 mg/L	0.04 mg/L	96.2	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.9 mg/L	10 mg/L	109	70.0	130	----
		Potassium, total	7440-09-7	E420	3.81 mg/L	4 mg/L	95.3	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0425 mg/L	0.04 mg/L	106	70.0	130	----
		Silicon, total	7440-21-3	E420	9.46 mg/L	10 mg/L	94.6	70.0	130	----
		Silver, total	7440-22-4	E420	0.00432 mg/L	0.004 mg/L	108	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	22.5 mg/L	20 mg/L	112	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0422 mg/L	0.04 mg/L	105	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00374 mg/L	0.004 mg/L	93.5	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0193 mg/L	0.02 mg/L	96.4	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1554810) - continued										
FJ2402064-002	Anonymous	Tin, total	7440-31-5	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0389 mg/L	0.04 mg/L	97.3	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0199 mg/L	0.02 mg/L	99.3	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00392 mg/L	0.004 mg/L	98.0	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Zinc, total	7440-66-6	E420	0.387 mg/L	0.4 mg/L	96.9	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0394 mg/L	0.04 mg/L	98.5	70.0	130	----
Total Metals (QCLot: 1558861)										
YL2400913-003	Anonymous	Mercury, total	7439-97-6	E508	0.0000990 mg/L	0 mg/L	99.0	70.0	130	----

Qualifiers

Qualifier	Description
MS-B	*Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.*

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page 1 of 1

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Stantec Consulting Ltd.	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Natalie Normandeau	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	4910 53 St, PO Box 1777 Yellowknife, NT X1A 2P4	☐ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
Phone:	(204) 509-9864 (867) 920-2882	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
		Email 1 or Fax natalie.normandeau@stantec.com	Specify Date Required for E2,E or P:
		Email 2 steve.hannington@stantec.com	

Invoice To		Invoice Distribution	Analysis Request
	Same as Report To ☐ Yes ☑ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report ☐ Yes ☑ No	Email 1 or Fax SAPinvoices@stantec.com	
Company:	Stantec Consulting Ltd.	Email 2 —	
Contact:	—		

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	YL24-STAC100-003	Approver ID:	Cost Center:
Job #:	123515016	GL Account:	Routing Code:
PO / AFE:	—	Activity Code:	
LSD:	—	Location:	

ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler: Tarek Ghadieh

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Groundwater Package	Surface Water Package SNP	Number of Containers
	GLG-2624-00002-005	16-Jul-24	09:15	GW	X		2

Environmental Division
Yellowknife
Work Order Reference
YL2400921

Telephone : +1 867 873 6593

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☒ No	Only tot. metals bottle & 1/2 nutrients bottle filled & submitted analyze what parameters are possible from the package — well went dry
Are samples for human drinking water use? ☐ Yes ☒ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☐				

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
6.0					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
TAREK GHADIEH	2024/07/16	14:29		16/24	14:30			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM0326a v08 Front05 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401240**	Page	: 1 of 14
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 21-Aug-2024 12:51
PO	: ----	Date Analysis Commenced	: 23-Aug-2024
C-O-C number	: ----	Issue Date	: 30-Aug-2024 18:07
Sampler	: Magda Celejewski, Tarek Ghadieh		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 11		
No. of samples analysed	: 11		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Angelo Salandanan	Lab Assistant	Metals, Burnaby, British Columbia
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Shantal Breeze	Laboratory Analyst	Organics, Calgary, Alberta
Sorina Motea	Laboratory Analyst	Organics, Calgary, Alberta
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	*Comment*
YL2401240-001	GLG-2024-00003-005	Water sample for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

Qualifiers

Qualifier	*Description*
DLA	*Detection Limit adjusted for required dilution.*
DLDS	*Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 3-005	GLG-2024-0000 3-006	GLG-2024-0000 3-019	GLG-2024-0000 3-004	GLG-2024-0000 3-003
					Client sampling date / time	20-Aug-2024 10:00	20-Aug-2024 10:50	20-Aug-2024 00:00	20-Aug-2024 11:40	20-Aug-2024 12:15
						YL2401240-001	YL2401240-002	YL2401240-003	YL2401240-004	YL2401240-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		----	169	170	276	731
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		----	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		----	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		----	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		----	169	170	276	731
Conductivity	----	E100/VA	2.0	µS/cm		----	579	582	798	2260
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		1090	273	308	381	1200
pH	----	E108/VA	0.10	pH units		----	8.27	8.26	7.64	7.90
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		----	369	385	504	1730
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		----	<1.0	<1.0	21.3	51.0
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		1060	300	301	392	1200
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.202	0.0059	0.0116	0.326	1.69
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		----	1.09	1.03	2.80	32.0
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		----	4.54	4.53	<0.0250 DLDS	<0.100 DLDS
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		----	20.1	20.0	<0.111	<0.443
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		----	4.54	4.53	<0.0255	<0.102
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		----	0.0048	0.0047	<0.0050 DLDS	<0.0200 DLDS
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		----	0.0157	0.0154	<0.0164	<0.0656
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		----	0.0082	0.0074	<0.0010	<0.0010
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0095	0.0179	0.0176	0.0219	0.102
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		----	121	122	162	661
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		7.37	4.46	4.05	10.5	19.0
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0375	0.0050	0.0048	0.0417	0.0241

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 3-005	GLG-2024-0000 3-006	GLG-2024-0000 3-019	GLG-2024-0000 3-004	GLG-2024-0000 3-003
					Client sampling date / time	20-Aug-2024 10:00	20-Aug-2024 10:50	20-Aug-2024 00:00	20-Aug-2024 11:40	20-Aug-2024 12:15
						YL2401240-001	YL2401240-002	YL2401240-003	YL2401240-004	YL2401240-005
						Result	Result	Result	Result	Result
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		0.00093	0.00476	0.00510	0.00030	<0.00020 DLA
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.0155	0.00416	0.00411	0.0223	0.0168
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0525	0.0264	0.0263	0.0522	0.269
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100 DLA
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000100 DLA	<0.000050	<0.000050	<0.000100 DLA	<0.000100 DLA
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.072	<0.010	<0.010	0.037	0.104
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.0000672	0.0000130	0.0000162	0.000128	0.0000113
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		374	93.2	107	127	334
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000020 DLA	<0.000010	<0.000010	<0.000020 DLA	<0.000020 DLA
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		0.00141	<0.00050	<0.00050	<0.00100 DLA	<0.00100 DLA
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.0118	0.00021	0.00022	0.00506	0.0216
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00140	0.00135	0.00124	0.00653	<0.00100 DLA
Iron, total	7439-89-6	E420/VA	0.010	mg/L		7.70	0.021	0.024	9.53	20.2
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000340	0.000086	0.000071	0.00230	<0.000100 DLA
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0038	0.0016	0.0019	0.0042	0.0282
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		37.7	9.74	9.92	15.6	87.8
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		1.67	0.0148	0.0193	5.44	4.23
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.00351	0.00620	0.00654	0.00178	0.00117
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.0116	0.00216	0.00217	0.0152	0.00147
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.100 DLA	<0.050	<0.050	<0.100 DLA	0.108
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		15.4	1.79	1.76	4.92	25.5
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00261	0.00116	0.00113	0.00316	0.00170
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.000427	0.00199	0.00172	0.000107	0.000162
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		8.45	5.13	4.83	8.03	10.4
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000020 DLA	<0.000010	<0.000010	0.000032	<0.000020 DLA
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		47.7	3.45	3.48	15.4	113
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		1.82	0.332	0.358	0.427	2.20
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		313	44.7	41.9	61.9	231
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00040 DLA	<0.00020	<0.00020	<0.00040 DLA	<0.00040 DLA

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 3-005	GLG-2024-0000 3-006	GLG-2024-0000 3-019	GLG-2024-0000 3-004	GLG-2024-0000 3-003
					Client sampling date / time	20-Aug-2024 10:00	20-Aug-2024 10:50	20-Aug-2024 00:00	20-Aug-2024 11:40	20-Aug-2024 12:15
						YL2401240-001	YL2401240-002	YL2401240-003	YL2401240-004	YL2401240-005
						Result	Result	Result	Result	Result
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		0.000031	<0.000010	0.000014	<0.000020 DLA	<0.000020 DLA
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00020 DLA	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00020 DLA	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00090 DLM	<0.00030	<0.00030	<0.00060 DLA	<0.00180 DLM
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00020 DLA	<0.00010	<0.00010	<0.00020 DLA	0.00044
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.0113	0.00275	0.00290	0.000730	0.0118
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00100 DLA	<0.00050	<0.00050	<0.00100 DLA	0.00136
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0060 DLA	<0.0030	<0.0030	<0.0060 DLA	<0.0060 DLA
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00040 DLA	<0.00020	<0.00020	<0.00040 DLA	<0.00320 DLM
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		364	103	103	130	323
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		37.5	10.4	10.6	16.4	95.7
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		14.6	1.72	1.80	4.50	26.3
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		45.2	3.35	3.51	15.6	120
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		----	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		----	<0.50	<0.50	1.78	<0.50
Toluene	108-88-3	E611A/CG	0.50	µg/L		----	<0.50	<0.50	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		----	<0.50	<0.50	1.79	<0.50
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		----	<0.50	<0.50	<0.50	<0.50
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		----	<0.75	<0.75	1.79	<0.75
BTEX, total	----	E611A/CG	1.2	µg/L		----	<1.2	<1.2	3.6	<1.2
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		----	<100	<100	<100	<100
F1-BTEX	----	EC580/CG	100	µg/L		----	<100	<100	<100	<100
F2 (C10-C16)	----	E601/CG	100	µg/L		----	<100	<100	1190	<100
F3 (C16-C34)	----	E601/CG	250	µg/L		----	<250	<250	<250	<250
F4 (C34-C50)	----	E601/CG	250	µg/L		----	<250	<250	<250	<250
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		----	<400	<400	1190	<400

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-0000 3-005	GLG-2024-0000 3-006	GLG-2024-0000 3-019	GLG-2024-0000 3-004	GLG-2024-0000 3-003
					Client sampling date / time	20-Aug-2024 10:00	20-Aug-2024 10:50	20-Aug-2024 00:00	20-Aug-2024 11:40	20-Aug-2024 12:15
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401240-001	YL2401240-002	YL2401240-003	YL2401240-004	YL2401240-005
						Result	Result	Result	Result	Result
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		----	91.0	94.3	96.2	92.3
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		----	91.3	96.3	95.0	88.6
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		----	79.5	77.0	84.0	80.2
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		----	93.1	92.2	92.6	92.4

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	GLG-2024-0000 3-002	GLG-2024-0000 3-001	GLG-2024-0000 3-010	GLG-2024-0000 3-011	GLG-2024-0000 3-012
				Client sampling date / time	20-Aug-2024 13:00	20-Aug-2024 13:30	20-Aug-2024 11:00	20-Aug-2024 11:30	20-Aug-2024 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401240-006	YL2401240-007	YL2401240-008	YL2401240-009	YL2401240-010
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	469	324	41.5	41.0	41.1
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	469	324	41.5	41.0	41.1
Conductivity	----	E100/VA	2.0	µS/cm	5810	2740	101	103	99.0
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1280	1650	41.5	41.8	42.3
pH	----	E108/VA	0.10	pH units	8.08	7.81	7.92	7.90	7.79
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	4500	2350	69.0	63.0	62.3
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	3.8	54.8	<1.0	<1.0	<1.0
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	1320	1590	42.9	44.5	45.4
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.739	1.06	<0.0050	<0.0050	<0.0050
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	191	10.5	1.44	1.44	1.44
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.250 DLDS	<0.100 DLDS	<0.0050	<0.0050	<0.0050
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L	<1.11	<0.443	<0.022	<0.022	<0.022
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.255	<0.102	<0.0051	<0.0051	<0.0051
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0500 DLDS	<0.0200 DLDS	<0.0010	<0.0010	<0.0010
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L	<0.164	<0.0656	<0.0033	<0.0033	<0.0033
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0302	0.0206	0.0046	0.0050	0.0050
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	3030	1510	7.88	7.90	7.90
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	10.2	4.15	3.22	3.17	3.09
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0256	0.107	0.0117	0.0108	0.0122

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 3-002	GLG-2024-0000 3-001	GLG-2024-0000 3-010	GLG-2024-0000 3-011	GLG-2024-0000 3-012
					Client sampling date / time	20-Aug-2024 13:00	20-Aug-2024 13:30	20-Aug-2024 11:00	20-Aug-2024 11:30	20-Aug-2024 12:00
						YL2401240-006	YL2401240-007	YL2401240-008	YL2401240-009	YL2401240-010
						Result	Result	Result	Result	Result
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		0.00082	<0.00020 DLA	<0.00010	<0.00010	<0.00010
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.0207	0.0139	0.00036	0.00033	0.00033
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0156	0.0226	0.00490	0.00458	0.00466
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000250 DLA	<0.000100 DLA	<0.000050	<0.000050	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.146	0.150	<0.010	<0.010	<0.010
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.0121	0.000228	<0.0000050	<0.0000050	<0.0000050
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		378	449	11.3	11.7	11.7
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000050 DLA	0.000028	<0.000010	<0.000010	<0.000010
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00250 DLA	<0.00100 DLA	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.675	0.0135	<0.00010	<0.00010	<0.00010
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		<0.00250 DLA	<0.00100 DLA	0.00061	0.00061	0.00059
Iron, total	7439-89-6	E420/VA	0.010	mg/L		1.35	46.4	<0.010	<0.010	<0.010
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000442	0.000489	<0.000050	<0.000050	<0.000050
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0361	0.0272	0.0019	0.0019	0.0019
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		81.8	129	3.23	3.06	3.18
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		10.9	1.08	0.00270	0.00275	0.00266
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.00444	0.000785	0.000078	0.000079	0.000085
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		1.63	0.00557	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.250 DLA	<0.100 DLA	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		73.2	52.5	1.70	1.59	1.66
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00272	0.00448	0.00220	0.00213	0.00221
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.00106	0.000234	<0.000050	<0.000050	0.000051
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		6.93	12.8	0.18	0.16	0.16
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000050 DLA	<0.000020 DLA	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		1000	60.7	2.60	2.48	2.53
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		3.65	4.82	0.0454	0.0459	0.0451
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		1060	565	2.74	2.74	2.78
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00100 DLA	0.00071	<0.00020	<0.00020	<0.00020

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 3-002	GLG-2024-0000 3-001	GLG-2024-0000 3-010	GLG-2024-0000 3-011	GLG-2024-0000 3-012
					Client sampling date / time	20-Aug-2024 13:00	20-Aug-2024 13:30	20-Aug-2024 11:00	20-Aug-2024 11:30	20-Aug-2024 12:00
						YL2401240-006	YL2401240-007	YL2401240-008	YL2401240-009	YL2401240-010
						Result	Result	Result	Result	Result
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		0.000053	<0.000020 DLA	<0.000010	<0.000010	<0.000010
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00050 DLA	<0.00020 DLA	<0.00010	<0.00010	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00050 DLA	<0.00020 DLA	<0.00010	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00150 DLA	<0.00060 DLA	<0.00030	<0.00030	<0.00030
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00050 DLA	0.00149	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.00910	0.000836	0.000106	0.000100	0.000105
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00250 DLA	<0.00100 DLA	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		5.23	0.0385	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00100 DLA	<0.00040 DLA	<0.00020	<0.00020	<0.00020
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		381	415	11.9	12.2	12.2
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		88.7	135	3.20	3.40	3.62
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		73.8	51.8	1.50	1.55	1.54
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		1000	62.8	2.50	2.51	2.67
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		<0.50	3.05	<0.50	<0.50	<0.50
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	108-88-3	E611A/CG	0.50	µg/L		<0.50	2.45	<0.50	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		<0.50	0.61	<0.50	<0.50	<0.50
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		<0.75	<0.75	<0.75	<0.75	<0.75
BTEX, total	----	E611A/CG	1.2	µg/L		<1.2	6.1	<1.2	<1.2	<1.2
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	<100	<100
F1-BTEX	----	EC580/CG	100	µg/L		<100	<100	<100	<100	<100
F2 (C10-C16)	----	E601/CG	100	µg/L		<100	140	<100	<100	<100
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	<250	<250	<250	<250
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	<250	<250	<250	<250
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	<400	<400	<400	<400

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00003-002	GLG-2024-00003-001	GLG-2024-00003-010	GLG-2024-00003-011	GLG-2024-00003-012
					Client sampling date / time	20-Aug-2024 13:00	20-Aug-2024 13:30	20-Aug-2024 11:00	20-Aug-2024 11:30	20-Aug-2024 12:00
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401240-006	YL2401240-007	YL2401240-008	YL2401240-009	YL2401240-010
						Result	Result	Result	Result	Result
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		92.0	95.5	92.2	96.8	94.7
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		86.2	85.5	97.2	96.8	93.5
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		75.0	80.1	81.3	81.2	79.8
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		91.1	91.9	90.6	95.0	91.0

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	GLG-2024-00003-013	----	----	----	----
				Client sampling date / time	20-Aug-2024 12:40	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401240-011	--------	--------	--------	--------
					Result	----	----	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	40.6	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	40.6	----	----	----	----
Conductivity	----	E100/VA	2.0	µS/cm	103	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	41.2	----	----	----	----
pH	----	E108/VA	0.10	pH units	7.79	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	67.3	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	45.0	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	1.44	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0050	----	----	----	----
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L	<0.022	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0051	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	----	----	----	----
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L	<0.0033	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L	<0.0010	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0043	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	7.90	----	----	----	----
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	3.08	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0112	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00003-013	----	----	----	----
					Client sampling date / time	20-Aug-2024 12:40	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401240-011	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00032	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00440	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		11.5	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00062	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		<0.010	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0019	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		3.03	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00276	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000089	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.58	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00204	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		0.17	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		2.47	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0456	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		2.91	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-0000 3-013	----	----	----	----
					Client sampling date / time	20-Aug-2024 12:40	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401240-011	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00030	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000102	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		12.6	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		3.30	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.50	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		2.57	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	----	----	----	----
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		<0.50	----	----	----	----
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	----	----	----	----
Toluene	108-88-3	E611A/CG	0.50	µg/L		<0.50	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		<0.50	----	----	----	----
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	----	----	----	----
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		<0.75	----	----	----	----
BTEX, total	----	E611A/CG	1.2	µg/L		<1.2	----	----	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	----	----	----	----
F1-BTEX	----	EC580/CG	100	µg/L		<100	----	----	----	----
F2 (C10-C16)	----	E601/CG	100	µg/L		<100	----	----	----	----
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	----	----	----	----
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	----	----	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00003-013	----	----	----	----
					Client sampling date / time	20-Aug-2024 12:40	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401240-011	--------	--------	--------	--------
						Result	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		93.6	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		94.6	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		75.2	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		91.7	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401240**	Page	: 1 of 31
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 21-Aug-2024 12:51
PO	: ----	Issue Date	: 30-Aug-2024 18:07
C-O-C number	: ----		
Sampler	: Magda Celejewski, Tarek Ghadieh		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 11		
No. of samples analysed	: 11		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-004	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-005	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-012	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-013	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-019	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-001	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	28-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-002	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	28-Aug-2024	28 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-003	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	28-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-006	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	28-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-010	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	28-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-011	E298	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	28-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-001	E235.Cl	20-Aug-2024	27-Aug-2024	28 days	6 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-002	E235.Cl	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-003	E235.Cl	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-004	E235.Cl	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-006	E235.Cl	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-010	E235.Cl	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-011	E235.Cl	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-012	E235.Cl	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-013	E235.Cl	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-019	E235.Cl	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00003-001	E378-U	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	28-Aug-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00003-002	E378-U	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	28-Aug-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00003-003	E378-U	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	28-Aug-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00003-004	E378-U	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	28-Aug-2024	3 days	7 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00003-006	E378-U	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	28-Aug-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00003-010	E378-U	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	28-Aug-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00003-011	E378-U	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	28-Aug-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00003-012	E378-U	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	28-Aug-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00003-013	E378-U	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	28-Aug-2024	3 days	7 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00003-019	E378-U	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	28-Aug-2024	3 days	7 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-001	E235.NO3-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-002	E235.NO3-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-003	E235.NO3-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-004	E235.NO3-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-006	E235.NO3-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-010	E235.NO3-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-011	E235.NO3-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-012	E235.NO3-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-013	E235.NO3-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-019	E235.NO3-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-001	E235.NO2-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-002	E235.NO2-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-003	E235.NO2-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-004	E235.NO2-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-006	E235.NO2-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-010	E235.NO2-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-011	E235.NO2-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-012	E235.NO2-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-013	E235.NO2-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-019	E235.NO2-L	20-Aug-2024	27-Aug-2024	3 days	6 days	× EHT	27-Aug-2024	3 days	6 days	× EHT
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00003-001	E235.SO4	20-Aug-2024	27-Aug-2024	28 days	6 days	✓	27-Aug-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-002	E235.SO4	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-003	E235.SO4	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-004	E235.SO4	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-006	E235.SO4	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-010	E235.SO4	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-011	E235.SO4	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-012	E235.SO4	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-013	E235.SO4	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-019	E235.SO4	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-001	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-002	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-003	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-004	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-005	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-006	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-010	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-011	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-012	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-013	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00003-019	E372-U	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	29-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-001	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-002	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-003	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-004	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-005	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-006	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-010	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-011	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-012	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-013	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-019	E421	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	30-Aug-2024	180 days	10 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-001	E581.F1	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-002	E581.F1	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-003	E581.F1	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-004	E581.F1	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-006	E581.F1	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-010	E581.F1	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-011	E581.F1	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-012	E581.F1	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-013	E581.F1	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-019	E581.F1	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00003-001	E601	20-Aug-2024	26-Aug-2024	14 days	6 days	✓	26-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00003-002	E601	20-Aug-2024	26-Aug-2024	14 days	6 days	✓	26-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00003-003	E601	20-Aug-2024	26-Aug-2024	14 days	6 days	✓	26-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00003-004	E601	20-Aug-2024	26-Aug-2024	14 days	6 days	✓	26-Aug-2024	40 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00003-006	E601	20-Aug-2024	26-Aug-2024	14 days	6 days	✓	26-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00003-010	E601	20-Aug-2024	26-Aug-2024	14 days	6 days	✓	26-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00003-011	E601	20-Aug-2024	26-Aug-2024	14 days	6 days	✓	26-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00003-012	E601	20-Aug-2024	26-Aug-2024	14 days	6 days	✓	26-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00003-013	E601	20-Aug-2024	26-Aug-2024	14 days	6 days	✓	26-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00003-019	E601	20-Aug-2024	26-Aug-2024	14 days	6 days	✓	26-Aug-2024	40 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-001	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-002	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-003	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00003-004	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00003-005	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00003-006	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00003-010	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00003-011	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00003-012	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00003-013	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00003-019	E355-L	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00003-001	E290	20-Aug-2024	27-Aug-2024	14 days	6 days	✓	27-Aug-2024	14 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-002	E290	20-Aug-2024	27-Aug-2024	14 days	7 days	✓	27-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-003	E290	20-Aug-2024	27-Aug-2024	14 days	7 days	✓	27-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-004	E290	20-Aug-2024	27-Aug-2024	14 days	7 days	✓	27-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-006	E290	20-Aug-2024	27-Aug-2024	14 days	7 days	✓	27-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-010	E290	20-Aug-2024	27-Aug-2024	14 days	7 days	✓	27-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-011	E290	20-Aug-2024	27-Aug-2024	14 days	7 days	✓	27-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-012	E290	20-Aug-2024	27-Aug-2024	14 days	7 days	✓	27-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-013	E290	20-Aug-2024	27-Aug-2024	14 days	7 days	✓	27-Aug-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-019	E290	20-Aug-2024	27-Aug-2024	14 days	7 days	✓	27-Aug-2024	14 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-001	E100	20-Aug-2024	27-Aug-2024	28 days	6 days	✓	27-Aug-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-002	E100	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-003	E100	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-004	E100	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-006	E100	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-010	E100	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-011	E100	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-012	E100	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-013	E100	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-019	E100	20-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-001	E108	20-Aug-2024	27-Aug-2024	0.25 hrs	155 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	168 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-002	E108	20-Aug-2024	27-Aug-2024	0.25 hrs	156 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	169 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-013	E108	20-Aug-2024	27-Aug-2024	0.25 hrs	156 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	169 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-003	E108	20-Aug-2024	27-Aug-2024	0.25 hrs	156 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	170 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-004	E108	20-Aug-2024	27-Aug-2024	0.25 hrs	157 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	170 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-011	E108	20-Aug-2024	27-Aug-2024	0.25 hrs	157 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	170 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-012	E108	20-Aug-2024	27-Aug-2024	0.25 hrs	157 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	170 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-006	E108	20-Aug-2024	27-Aug-2024	0.25 hrs	158 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	171 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: ✗ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-010	E108	20-Aug-2024	27-Aug-2024	0.25 hrs	158 hrs	✗ EHTR-FM	27-Aug-2024	0.25 hrs	171 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-019	E108	20-Aug-2024	27-Aug-2024	0.25 hrs	159 hrs	✗ EHTR-FM	27-Aug-2024	0.25 hrs	172 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-001	E162-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-002	E162-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-003	E162-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-004	E162-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-006	E162-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-010	E162-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-011	E162-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
GLG-2024-00003-012	E162-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
GLG-2024-00003-013	E162-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
GLG-2024-00003-019	E162-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00003-001	E160-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00003-002	E160-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00003-003	E160-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00003-004	E160-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00003-006	E160-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00003-010	E160-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00003-011	E160-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00003-012	E160-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00003-013	E160-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00003-019	E160-L	20-Aug-2024	----	----	----		27-Aug-2024	7 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved) GLG-2024-00003-005	E508	20-Aug-2024	28-Aug-2024	0 hrs	184 hrs	× UCP	28-Aug-2024	0 hrs	184 hrs	× UCP
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00003-001	E508	20-Aug-2024	28-Aug-2024	28 days	8 days	✓	28-Aug-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00003-002	E508	20-Aug-2024	28-Aug-2024	28 days	8 days	✓	28-Aug-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00003-003	E508	20-Aug-2024	28-Aug-2024	28 days	8 days	✓	28-Aug-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00003-004	E508	20-Aug-2024	28-Aug-2024	28 days	8 days	✓	28-Aug-2024	28 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00003-006	E508	20-Aug-2024	28-Aug-2024	28 days	8 days	✓	28-Aug-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00003-010	E508	20-Aug-2024	28-Aug-2024	28 days	8 days	✓	28-Aug-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00003-011	E508	20-Aug-2024	28-Aug-2024	28 days	8 days	✓	28-Aug-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00003-012	E508	20-Aug-2024	28-Aug-2024	28 days	8 days	✓	28-Aug-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00003-013	E508	20-Aug-2024	28-Aug-2024	28 days	8 days	✓	28-Aug-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00003-019	E508	20-Aug-2024	28-Aug-2024	28 days	8 days	✓	28-Aug-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-003	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	28-Aug-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-019	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	28-Aug-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-001	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	29-Aug-2024	180 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-002	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	29-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-004	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	29-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-005	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	29-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-006	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	29-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-010	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	29-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-011	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	29-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-012	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	29-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-013	E420	20-Aug-2024	28-Aug-2024	180 days	8 days	✓	29-Aug-2024	180 days	9 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-001	E611A	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-002	E611A	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-003	E611A	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-004	E611A	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-006	E611A	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-010	E611A	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-011	E611A	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-012	E611A	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-013	E611A	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-019	E611A	20-Aug-2024	23-Aug-2024	14 days	3 days	✓	23-Aug-2024	14 days	3 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1617396	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1617728	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1612234	1	17	5.8	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1612235	1	16	6.2	5.0	✓
Chloride in Water by IC	E235.Cl	1617401	1	15	6.6	5.0	✓
Conductivity in Water	E100	1617397	1	16	6.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1618358	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1617406	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1617403	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1617404	1	17	5.8	5.0	✓
pH by Meter	E108	1617398	1	16	6.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1617399	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1618736	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1620206	2	29	6.9	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1618306	3	26	11.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617726	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1617727	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1617396	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1617728	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1612234	1	17	5.8	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1612235	1	16	6.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1615928	1	19	5.2	5.0	✓
Chloride in Water by IC	E235.Cl	1617401	1	15	6.6	5.0	✓
Conductivity in Water	E100	1617397	1	16	6.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1618358	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1617406	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1617403	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1617404	1	17	5.8	5.0	✓
pH by Meter	E108	1617398	1	16	6.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1617399	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1618736	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1620206	2	29	6.9	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1618306	2	26	7.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617726	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1617727	1	20	5.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
TSS by Gravimetry (Low Level)	E160-L	1618759	1	18	5.5	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1617396	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1617728	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1612234	1	17	5.8	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1612235	1	16	6.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1615928	1	19	5.2	5.0	✓
Chloride in Water by IC	E235.Cl	1617401	1	15	6.6	5.0	✓
Conductivity in Water	E100	1617397	1	16	6.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1618358	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1617406	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1617403	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1617404	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1617399	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1618736	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1620206	2	29	6.9	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1618306	2	26	7.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617726	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1617727	1	20	5.0	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1618759	1	18	5.5	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1617728	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1612234	1	17	5.8	5.0	✓
Chloride in Water by IC	E235.Cl	1617401	1	15	6.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1618358	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1617406	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1617403	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1617404	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1617399	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1620206	2	29	6.9	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1618306	2	26	7.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617726	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1617727	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Vancouver	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Calgary	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Vancouver	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Nitrite (as N) converted to Nitrite (as NO2)	EC235.NO2A ALS Environmental - Vancouver	Water	Calculation	Nitrite by IC measured as N is converted to the NO2 form by calculation.
Nitrate (as N) converted to Nitrate (as NO3)	EC235.NO3A ALS Environmental - Vancouver	Water	Calculation	Nitrate by IC measured as N is converted to the NO3 form by calculation.
F1-BTEX	EC580 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Sum F1 to F4 (C6-C50)	EC581 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Calgary	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Calgary	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **YL2401240**	Page	: 1 of 17
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 21-Aug-2024 12:51
PO	: ----	Date Analysis Commenced	: 23-Aug-2024
C-O-C number	: ----	Issue Date	: 30-Aug-2024 18:07
Sampler	: Magda Celejewski, Tarek Ghadieh		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 11		
No. of samples analysed	: 11		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Angelo Salandanan	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Dan Gebert	Laboratory Analyst	Vancouver Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Shantal Breeze	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Sorina Motea	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1617396)											
VA24C1571-007	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	70.0	69.8	0.286%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	70.0	69.8	0.286%	20%	----
Physical Tests (QC Lot: 1617397)											
VA24C1571-007	Anonymous	Conductivity	----	E100	2.0	µS/cm	130	133	1.90%	10%	----
Physical Tests (QC Lot: 1617398)											
VA24C1571-007	Anonymous	pH	----	E108	0.10	pH units	8.06	8.05	0.124%	4%	----
Physical Tests (QC Lot: 1618736)											
VA24C1108-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	171	170	0.586%	20%	----
Anions and Nutrients (QC Lot: 1617399)											
FJ2402512-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	6.00	mg/L	934	934	0.0825%	20%	----
Anions and Nutrients (QC Lot: 1617401)											
FJ2402512-002	Anonymous	Chloride	16887-00-6	E235.Cl	10.0	mg/L	97.9	97.6	0.26	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617403)											
FJ2402512-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617404)											
FJ2402512-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0200	mg/L	<0.0200	<0.0200	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617406)											
FJ2402512-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617727)											
FJ2402507-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0032	0.0030	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617728)											
FJ2402507-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0064	0.0065	0.0001	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1617726)											
FJ2402507-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.02	1.10	0.08	Diff <2x LOR	----
Total Metals (QC Lot: 1618306)											
YL2401235-001	Anonymous	Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1618306) - continued											
YL2401235-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.116	0.104	10.8%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00012	0.00012	0.000002	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00096	0.00101	0.00006	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0412	0.0432	4.81%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.015	0.015	0.0001	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	0.0000054	0.0000004	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	25.4	24.8	2.19%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000012	0.000011	0.0000008	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00158	0.00158	0.000006	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.105	0.101	4.24%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0041	0.0040	0.00007	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	6.52	6.76	3.70%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00368	0.00362	1.78%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000740	0.000740	0.119%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00108	0.00111	0.00003	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	1.20	1.27	5.90%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00102	0.00105	0.00004	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000204	0.000201	0.000004	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	1.26	1.26	0.0700%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	7.78	8.25	5.83%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.132	0.132	0.138%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	8.42	9.19	8.70%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00300	mg/L	<0.00300	<0.00300	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1618306) - continued											
YL2401235-001	Anonymous	Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000432	0.000438	1.38%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1619303)											
FJ2402566-014	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1619303) - continued											
FJ2402566-014	Anonymous	Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1620206)											
KS2403222-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1620207)											
YL2401240-004	GLG-2024-00003-004	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1618358)											
YL2401235-001	Anonymous	Calcium, dissolved	7440-70-2	E421	0.050	mg/L	27.0	25.9	4.03%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	7.20	7.09	1.60%	20%	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	1.16	1.19	2.32%	20%	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	8.12	8.12	0.00343%	20%	----
Volatile Organic Compounds (QC Lot: 1612234)											
CG2411792-009	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	0.0173 mg/L	18.6	7.47%	30%	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	0.00587 mg/L	5.95	1.24%	30%	----
		Toluene	108-88-3	E611A	0.50	µg/L	0.00132 mg/L	1.40	0.08	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	0.00101 mg/L	0.97	0.03	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	0.00077 mg/L	0.72	0.05	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1612235)											
CG2411792-009	Anonymous	F1 (C6-C10)	----	E581.F1	100	µg/L	0.57 mg/L	500	70	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1617396)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1617397)						
Conductivity	----	E100	1	µS/cm	1.0	----
Physical Tests (QCLot: 1618736)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1618759)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1617399)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1617401)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1617403)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1617404)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1617406)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1617727)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1617728)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1617726)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1618306)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1618306) - continued						
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1619303)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1619303) - continued						
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 1620206)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1620207)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1618358)						
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Volatile Organic Compounds (QCLot: 1612234)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1612235)						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1615928)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1617396)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	94.3	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	98.7	85.0	115	----
Physical Tests (QCLot: 1617397)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	101	90.0	110	----
Physical Tests (QCLot: 1617398)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1618736)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	105	85.0	115	----
Physical Tests (QCLot: 1618759)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1617399)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1617401)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1617403)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1617404)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1617406)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	114	80.0	120	----
Anions and Nutrients (QCLot: 1617727)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	94.6	80.0	120	----
Anions and Nutrients (QCLot: 1617728)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	105	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1617726)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	100	80.0	120	----
Total Metals (QCLot: 1618306)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	105	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	103	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1618306) - continued									
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	108	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	94.8	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	99.7	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	93.2	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	102	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	95.3	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	95.8	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	105	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	98.6	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	95.4	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	101	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	104	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	108	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	111	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	112	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	93.8	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	104	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	98.2	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	100	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	95.3	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	102	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.3	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	95.8	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	99.3	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	104	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	99.2	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1618306) - continued									
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.6	80.0	120	----
Total Metals (QCLot: 1619303)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	102	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	108	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	104	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	100	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	106	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	92.2	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	98.6	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	100.0	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	104	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	97.6	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	95.9	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	95.3	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	94.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	102	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	97.9	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	98.9	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	97.0	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	95.9	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	104	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	99.3	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	94.6	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	104	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	97.5	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	104	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	88.3	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	106	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	98.7	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	95.6	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1619303) - continued									
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	105	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	98.4	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	99.0	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Total Metals (QCLot: 1620206)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	102	80.0	120	----
Total Metals (QCLot: 1620207)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	102	80.0	120	----
Dissolved Metals (QCLot: 1618358)									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	97.0	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	104	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	106	80.0	120	----
Volatile Organic Compounds (QCLot: 1612234)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	116	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	104	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	112	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	98.4	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	112	70.0	130	----
Hydrocarbons (QCLot: 1612235)									
F1 (C6-C10)	----	E581.F1	100	µg/L	2480 µg/L	94.6	70.0	130	----
Hydrocarbons (QCLot: 1615928)									
F2 (C10-C16)	----	E601	100	µg/L	3830 µg/L	84.9	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7950 µg/L	95.6	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	4220 µg/L	100	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1617399)										
FJ2402512-003	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	2020 mg/L	2000 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1617401)										
FJ2402512-003	Anonymous	Chloride	16887-00-6	E235.Cl	2040 mg/L	2000 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1617403)										
FJ2402512-003	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	50.8 mg/L	50 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1617404)										
FJ2402512-003	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	10.00 mg/L	10 mg/L	100.0	75.0	125	----
Anions and Nutrients (QCLot: 1617406)										
FJ2402512-003	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1617727)										
FJ2402507-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0494 mg/L	0.05 mg/L	98.8	70.0	130	----
Anions and Nutrients (QCLot: 1617728)										
FJ2402507-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.105 mg/L	0.1 mg/L	105	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1617726)										
FJ2402507-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.12 mg/L	5 mg/L	102	70.0	130	----
Total Metals (QCLot: 1618306)										
YL2401235-002	Anonymous	Aluminum, total	7429-90-5	E420	0.182 mg/L	0.2 mg/L	91.1	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0208 mg/L	0.02 mg/L	104	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0364 mg/L	0.04 mg/L	91.0	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00920 mg/L	0.01 mg/L	92.0	70.0	130	----
		Boron, total	7440-42-8	E420	0.090 mg/L	0.1 mg/L	90.3	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00390 mg/L	0.004 mg/L	97.5	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00937 mg/L	0.01 mg/L	93.7	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0399 mg/L	0.04 mg/L	99.8	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0198 mg/L	0.02 mg/L	99.0	70.0	130	----
		Copper, total	7440-50-8	E420	0.0198 mg/L	0.02 mg/L	98.8	70.0	130	----
		Iron, total	7439-89-6	E420	1.95 mg/L	2 mg/L	97.6	70.0	130	----
		Lead, total	7439-92-1	E420	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0868 mg/L	0.1 mg/L	86.8	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0198 mg/L	0.02 mg/L	99.1	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1618306) - continued										
YL2401235-002	Anonymous	Nickel, total	7440-02-0	E420	0.0392 mg/L	0.04 mg/L	98.0	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.83 mg/L	10 mg/L	98.3	70.0	130	----
		Potassium, total	7440-09-7	E420	4.05 mg/L	4 mg/L	101	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0194 mg/L	0.02 mg/L	97.2	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0424 mg/L	0.04 mg/L	106	70.0	130	----
		Silicon, total	7440-21-3	E420	9.68 mg/L	10 mg/L	96.8	70.0	130	----
		Silver, total	7440-22-4	E420	0.00388 mg/L	0.004 mg/L	96.9	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	20.9 mg/L	20 mg/L	104	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0385 mg/L	0.04 mg/L	96.2	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00364 mg/L	0.004 mg/L	91.0	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0171 mg/L	0.02 mg/L	85.5	70.0	130	----
		Tin, total	7440-31-5	E420	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0382 mg/L	0.04 mg/L	95.6	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0183 mg/L	0.02 mg/L	91.4	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00373 mg/L	0.004 mg/L	93.3	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0999 mg/L	0.1 mg/L	99.9	70.0	130	----
		Zinc, total	7440-66-6	E420	0.385 mg/L	0.4 mg/L	96.2	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0382 mg/L	0.04 mg/L	95.5	70.0	130	----
Total Metals (QCLot: 1619303)										
YL2401240-003	GLG-2024-00003-019	Aluminum, total	7429-90-5	E420	0.194 mg/L	0.2 mg/L	97.1	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0213 mg/L	0.02 mg/L	106	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0207 mg/L	0.02 mg/L	103	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00970 mg/L	0.01 mg/L	97.0	70.0	130	----
		Boron, total	7440-42-8	E420	0.098 mg/L	0.1 mg/L	98.6	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00398 mg/L	0.004 mg/L	99.6	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0106 mg/L	0.01 mg/L	106	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0392 mg/L	0.04 mg/L	98.1	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0188 mg/L	0.02 mg/L	94.3	70.0	130	----
		Copper, total	7440-50-8	E420	0.0181 mg/L	0.02 mg/L	90.6	70.0	130	----
		Iron, total	7439-89-6	E420	1.84 mg/L	2 mg/L	92.2	70.0	130	----
		Lead, total	7439-92-1	E420	0.0190 mg/L	0.02 mg/L	94.9	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0975 mg/L	0.1 mg/L	97.5	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0184 mg/L	0.02 mg/L	91.8	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0217 mg/L	0.02 mg/L	109	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0364 mg/L	0.04 mg/L	91.0	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.4 mg/L	10 mg/L	104	70.0	130	----
		Potassium, total	7440-09-7	E420	3.92 mg/L	4 mg/L	97.9	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0194 mg/L	0.02 mg/L	97.1	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1619303) - continued										
YL2401240-003	GLG-2024-00003-019	Selenium, total	7782-49-2	E420	0.0399 mg/L	0.04 mg/L	99.7	70.0	130	----
		Silicon, total	7440-21-3	E420	9.48 mg/L	10 mg/L	94.8	70.0	130	----
		Silver, total	7440-22-4	E420	0.00422 mg/L	0.004 mg/L	105	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0429 mg/L	0.04 mg/L	107	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00381 mg/L	0.004 mg/L	95.4	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0211 mg/L	0.02 mg/L	106	70.0	130	----
		Tin, total	7440-31-5	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0380 mg/L	0.04 mg/L	94.9	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0194 mg/L	0.02 mg/L	97.1	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00402 mg/L	0.004 mg/L	100	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0978 mg/L	0.1 mg/L	97.8	70.0	130	----
		Zinc, total	7440-66-6	E420	0.368 mg/L	0.4 mg/L	92.1	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0431 mg/L	0.04 mg/L	108	70.0	130	----
Total Metals (QCLot: 1620206)										
VA24C1031-001	Anonymous	Mercury, total	7439-97-6	E508	0.000102 mg/L	0 mg/L	102	70.0	130	----
Total Metals (QCLot: 1620207)										
YL2401240-005	GLG-2024-00003-003	Mercury, total	7439-97-6	E508	0.000101 mg/L	0 mg/L	101	70.0	130	----
Dissolved Metals (QCLot: 1618358)										
YL2401235-002	Anonymous	Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.95 mg/L	4 mg/L	98.7	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
Volatile Organic Compounds (QCLot: 1612234)										
CG2411792-009	Anonymous	Benzene	71-43-2	E611A	129 µg/L	100 µg/L	129	70.0	130	----
		Ethylbenzene	100-41-4	E611A	113 µg/L	100 µg/L	113	70.0	130	----
		Toluene	108-88-3	E611A	118 µg/L	100 µg/L	118	70.0	130	----
		Xylene, m+p-	179601-23-1	E611A	197 µg/L	200 µg/L	98.5	70.0	130	----
		Xylene, o-	95-47-6	E611A	112 µg/L	100 µg/L	112	70.0	130	----

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 22 -

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Report To	Contact and company name below will appear on the final report
Company:	Stantec Consulting Ltd.
Contact:	Natalie Normandeau
Phone:	204-509-9864
	Company address below will appear on the final report
Street:	4910 53 Street
City/Province:	Yellowknife/NT
Postal Code:	X1A 2P4
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☒ NO
Company:	Stantec Consulting Ltd.
Contact:	Natalie Normandeau

Project Information

ALS Client Code / QUOTE #:	YL24-STAC100-0003
Job / Project #:	Gordon Lake - Phase I LTMP - Water
PO / AFE:	—
LSD:	—

Reports / Recipients

Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	natalie.normandeau@stantec.com
Email 2	steve.hannington@stantec.com
Email 3	ryan.weber@stantec.com

Invoice Recipients

Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	SAPinvoices@stantec.com
Email 2	—

Oil and Gas Required Fields (client use)

AFE/Cost Center:	—	PO#	—
Major/Minor Code:	—	Routing Code:	—
Requisitioner:	—		
Location:	—		

Turnaround Time (TAT) Requested

☒ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.

Date and Time Required for all E&P TATs: —

For all tests with rush TATs requested, please contact your AM to confirm availability.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

ALS Lab Work Order # (ALS use only):

ALS Contact:

Sampler: Tarek Ghadieh, Magda Celejewski

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	GroundWater Package (F/F)	Surface Water Package SNP (F/F)	Surface Water Package West Bay 1	Surface Water Package West Bay 2	Water QC	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	GLG-2024-00003-005	20-Aug-24	10:00	GW	3	X							
	GLG-2024-00003-006		10:50	GW	10	X							
	GLG-2024-00003-019		—	GW	10	X							
	GLG-2024-00003-004		11:40	GW	10	X							
	GLG-2024-00003-003		12:15	GW	10	X							
	GLG-2024-00003-002		13:00	GW	10	X							
	GLG-2024-00003-001		13:30	GW	10	X							
	GLG-2024-00003-010		11:00	SW	10		X						
	GLG-2024-00003-011		11:30	SW	10		X						
	GLG-2024-00003-012	↓	12:00	SW	10		X						
	GLG-2024-00003-013	20-Aug-24	12:40	SW	10		X						

Environmental Division
Yellowknife
Work Order Reference
YL2401240

Telephone : +1 867 873 5593

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☒ NO

Are samples for human consumption/ use? ☐ YES ☒ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Only total metals, dissolved metals, & nutrients bottle filled for GLG-2024-00003-005 (insuf. recovery)

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
10.9							

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
TAREK GHADIEH	21-Aug-24	~~12:51~~ 12:51

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
MG	Aug 21/24	12:51

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

MAY 2023 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401272**	Page	: 1 of 10
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 23-Aug-2024 10:43
PO	: ----	Date Analysis Commenced	: 26-Aug-2024
C-O-C number	: ----	Issue Date	: 30-Aug-2024 18:10
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Eunice Cura	Lab Analyst	Inorganics, Calgary, Alberta
George Huang	Supervisor - Inorganic	Metals, Calgary, Alberta
Gurvinder Kour	Lab Assistant	Metals, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Joshua Stessun	Laboratory Analyst	Organics, Calgary, Alberta
Jyotsnarani Devi	Laboratory Analyst	Organics, Calgary, Alberta
Katarzyna Glinka	Analyst	Inorganics, Calgary, Alberta
Kevin Baxter	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Kevin Baxter	Team Leader - Inorganics	Metals, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
HTA	*Analytical holding time was exceeded.*
RRV	*Reported result verified by repeat analysis.*

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 3-015	GLG-2024-0000 3-016	GLG-2024-0000 3-017	GLG-2024-0000 3-014	GLG-2024-0000 3-009
					Client sampling date / time	22-Aug-2024 09:30	22-Aug-2024 10:10	22-Aug-2024 10:45	22-Aug-2024 11:15	22-Aug-2024 12:00
						YL2401272-001	YL2401272-002	YL2401272-003	YL2401272-004	YL2401272-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/CG	1.0	mg/L		98.5	48.4	46.6	45.3	48.0
Alkalinity, carbonate (as CaCO3)	----	E290/CG	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/CG	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/CG	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/CG	1.0	mg/L		98.5	48.4	46.6	45.3	48.0
Conductivity	----	E100/CG	2.0	µS/cm		189	98.6	97.2	98.0	102
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/CG	0.60	mg/L		92.4	43.7	42.8	42.2	44.4
pH	----	E108/CG	0.10	pH units		7.87	7.96	8.00	7.96	7.98
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		173	58.5	61.2	62.2	64.2
Solids, total suspended [TSS]	----	E160-L/CG	1.0	mg/L		11.1	<1.0	<1.0	<1.0	<1.0
Hardness (as CaCO3), dissolved	----	EC100/CG	0.50	mg/L		88.4	42.6	42.6	42.5	44.2
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/CG	0.0050	mg/L		0.0262	<0.0050	<0.0050	0.0069	0.0184
Chloride	16887-00-6	E235.Cl/CG	0.50	mg/L		0.58	1.40	1.40	1.40	1.43
Nitrate (as N)	14797-55-8	E235.NO3-L/CG	0.0050	mg/L		0.0093	<0.0050	<0.0050	0.0051	<0.0050
Nitrate (as NO3)	14797-55-8	EC235.NO3A/CG	0.010	mg/L		0.041	<0.022	<0.022	0.022	<0.022
Nitrate + Nitrite (as N)	----	EC235.N+N/CG	0.0050	mg/L		0.0093	<0.0051	<0.0051	0.0051	<0.0051
Nitrite (as N)	14797-65-0	E235.NO2-L/CG	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nitrite (as NO2)	14797-65-0	EC235.NO2A/CG	0.0030	mg/L		<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/CG	0.0010	mg/L		0.0017 HTA	0.0012 HTA	<0.0010 HTA	0.0013 HTA	0.0012 HTA
Phosphorus, total	7723-14-0	E372-U/CG	0.0020	mg/L		0.0836	0.0043	0.0033	0.0049	0.0042
Sulfate (as SO4)	14808-79-8	E235.SO4/CG	0.30	mg/L		8.68	7.52	7.67	7.49	8.06
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/CG	0.50	mg/L		30.4	2.98	3.34	3.11	3.63
Total Metals										
Aluminum, total	7429-90-5	E420/CG	0.0030	mg/L		0.183	0.0077	0.0081	0.0072	0.0111

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 3-015	GLG-2024-0000 3-016	GLG-2024-0000 3-017	GLG-2024-0000 3-014	GLG-2024-0000 3-009
					Client sampling date / time	22-Aug-2024 09:30	22-Aug-2024 10:10	22-Aug-2024 10:45	22-Aug-2024 11:15	22-Aug-2024 12:00
						YL2401272-001	YL2401272-002	YL2401272-003	YL2401272-004	YL2401272-005
						Result	Result	Result	Result	Result
Total Metals										
Antimony, total	7440-36-0	E420/CG	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic, total	7440-38-2	E420/CG	0.00010	mg/L		0.00481	0.00043	0.00041	0.00040	0.00081
Barium, total	7440-39-3	E420/CG	0.00010	mg/L		0.0209	0.00424	0.00427	0.00423	0.00520
Beryllium, total	7440-41-7	E420/CG	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/CG	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron, total	7440-42-8	E420/CG	0.010	mg/L		0.012	<0.010	0.013	0.012	0.012
Cadmium, total	7440-43-9	E420/CG	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium, total	7440-70-2	E420/CG	0.050	mg/L		23.5	12.5	12.1	12.0	12.6
Cesium, total	7440-46-2	E420/CG	0.000010	mg/L		0.000054	<0.000010	<0.000010	<0.000010	<0.000010
Chromium, total	7440-47-3	E420/CG	0.00050	mg/L		0.00090	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/CG	0.00010	mg/L		0.00132	<0.00010	<0.00010	<0.00010	<0.00010
Copper, total	7440-50-8	E420/CG	0.00050	mg/L		0.00154	0.00050	<0.00050	<0.00050	0.00055
Iron, total	7439-89-6	E420/CG	0.010	mg/L		0.321	<0.010	<0.010	<0.010	<0.010
Lead, total	7439-92-1	E420/CG	0.000050	mg/L		0.000089	<0.000050	<0.000050	<0.000050	<0.000050
Lithium, total	7439-93-2	E420/CG	0.0010	mg/L		0.0079	0.0018	0.0016	0.0014	0.0016
Magnesium, total	7439-95-4	E420/CG	0.0050	mg/L		8.20	3.04	3.05	2.97	3.15
Manganese, total	7439-96-5	E420/CG	0.00010	mg/L		0.119	0.00372	0.00300	0.00220	0.00283
Mercury, total	7439-97-6	E508/CG	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/CG	0.000050	mg/L		0.000072	0.000096	0.000094	0.000092	0.000169
Nickel, total	7440-02-0	E420/CG	0.00050	mg/L		0.00912	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E420/CG	0.050	mg/L		0.062	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E420/CG	0.050	mg/L		2.93	1.55	1.54	1.53	1.55
Rubidium, total	7440-17-7	E420/CG	0.00020	mg/L		0.00471	0.00207	0.00209	0.00199	0.00212
Selenium, total	7782-49-2	E420/CG	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Silicon, total	7440-21-3	E420/CG	0.10	mg/L		0.84	0.16	0.14	0.13	0.35
Silver, total	7440-22-4	E420/CG	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/CG	0.050	mg/L		5.94	2.42	2.43	2.41	2.36
Strontium, total	7440-24-6	E420/CG	0.00020	mg/L		0.116	0.0484	0.0467	0.0468	0.0514
Sulfur, total	7704-34-9	E420/CG	0.50	mg/L		4.16	2.86	2.76	2.80	3.01
Tellurium, total	13494-80-9	E420/CG	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 3-015	GLG-2024-0000 3-016	GLG-2024-0000 3-017	GLG-2024-0000 3-014	GLG-2024-0000 3-009
					Client sampling date / time	22-Aug-2024 09:30	22-Aug-2024 10:10	22-Aug-2024 10:45	22-Aug-2024 11:15	22-Aug-2024 12:00
						YL2401272-001	YL2401272-002	YL2401272-003	YL2401272-004	YL2401272-005
						Result	Result	Result	Result	Result
Total Metals										
Thallium, total	7440-28-0	E420/CG	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium, total	7440-29-1	E420/CG	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, total	7440-31-5	E420/CG	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/CG	0.00030	mg/L		0.0120	<0.00030	<0.00030	<0.00030	<0.00030
Tungsten, total	7440-33-7	E420/CG	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/CG	0.000010	mg/L		0.000073	0.000097	0.000098	0.000095	0.000157
Vanadium, total	7440-62-2	E420/CG	0.00050	mg/L		0.00087	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E420/CG	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E420/CG	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/CG	0.050	mg/L		22.3	12.0	11.9	12.1	12.6
Magnesium, dissolved	7439-95-4	E421/CG	0.0050	mg/L		7.94	3.06	3.13	2.99	3.10
Potassium, dissolved	7440-09-7	E421/CG	0.050	mg/L		2.68	1.50	1.49	1.50	1.52
Sodium, dissolved	7440-23-5	E421/CG	0.050	mg/L		5.91	2.41	2.38	2.37	2.38
Dissolved metals filtration location	----	EP421/CG	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	108-88-3	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		<0.75	<0.75	<0.75	<0.75	<0.75
BTEX, total	----	E611A/CG	1.2	µg/L		<1.2	<1.2	<1.2	<1.2	<1.2
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	<100	<100
F1-BTEX	----	EC580/CG	100	µg/L		<100	<100	<100	<100	<100
F2 (C10-C16)	----	E601/CG	100	µg/L		<100	<100	<100	<100	<100
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	<250	<250	<250	<250
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	<250	<250	<250	<250
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	<400	<400	<400	<400

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00003-015	GLG-2024-00003-016	GLG-2024-00003-017	GLG-2024-00003-014	GLG-2024-00003-009
					Client sampling date / time	22-Aug-2024 09:30	22-Aug-2024 10:10	22-Aug-2024 10:45	22-Aug-2024 11:15	22-Aug-2024 12:00
						YL2401272-001	YL2401272-002	YL2401272-003	YL2401272-004	YL2401272-005
						Result	Result	Result	Result	Result
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		96.2	89.8	92.0	90.0	88.0
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		89.8	78.4	89.4	86.6	96.4
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		92.0	93.6	92.4	91.0	92.9
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		104	105	103	105	104

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	GLG-2024-00003-020	GLG-2024-00003-022	GLG-2024-00003-023	----	----
				Client sampling date / time	22-Aug-2024 12:00	22-Aug-2024 12:15	22-Aug-2024 12:20	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401272-006	YL2401272-007	YL2401272-008	--------	--------
					Result	Result	Result	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/CG	1.0	mg/L	49.3	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/CG	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/CG	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/CG	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/CG	1.0	mg/L	49.3	----	----	----	----
Conductivity	----	E100/CG	2.0	µS/cm	102	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/CG	0.60	mg/L	46.0	----	----	----	----
pH	----	E108/CG	0.10	pH units	7.97	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	64.5	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/CG	1.0	mg/L	<1.0	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/CG	0.50	mg/L	45.7	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/CG	0.0050	mg/L	0.0193	----	----	----	----
Chloride	16887-00-6	E235.Cl/CG	0.50	mg/L	1.43	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/CG	0.0050	mg/L	<0.0050	----	----	----	----
Nitrate (as NO3)	14797-55-8	EC235.NO3A/CG	0.010	mg/L	<0.022	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/CG	0.0050	mg/L	<0.0051	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/CG	0.0010	mg/L	<0.0010	----	----	----	----
Nitrite (as NO2)	14797-65-0	EC235.NO2A/CG	0.0030	mg/L	<0.0033	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/CG	0.0010	mg/L	0.0013 HTA	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/CG	0.0020	mg/L	0.0045	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/CG	0.30	mg/L	8.02	----	----	----	----
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	E355-L/CG	0.50	mg/L	3.70	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/CG	0.0030	mg/L	0.0102	----	----	----	----

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00003-020	GLG-2024-00003-022	GLG-2024-00003-023	----	----
					Client sampling date / time	22-Aug-2024 12:00	22-Aug-2024 12:15	22-Aug-2024 12:20	----	----
						YL2401272-006	YL2401272-007	YL2401272-008	--------	--------
						Result	Result	Result	----	----
Total Metals										
Antimony, total	7440-36-0	E420/CG	0.00010	mg/L		<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/CG	0.00010	mg/L		0.00074	----	----	----	----
Barium, total	7440-39-3	E420/CG	0.00010	mg/L		0.00545	----	----	----	----
Beryllium, total	7440-41-7	E420/CG	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/CG	0.000050	mg/L		<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/CG	0.010	mg/L		0.012	----	----	----	----
Cadmium, total	7440-43-9	E420/CG	0.0000050	mg/L		<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/CG	0.050	mg/L		13.2	----	----	----	----
Cesium, total	7440-46-2	E420/CG	0.000010	mg/L		<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420/CG	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/CG	0.00010	mg/L		<0.00010	----	----	----	----
Copper, total	7440-50-8	E420/CG	0.00050	mg/L		0.00056	----	----	----	----
Iron, total	7439-89-6	E420/CG	0.010	mg/L		<0.010	----	----	----	----
Lead, total	7439-92-1	E420/CG	0.000050	mg/L		<0.000050	----	----	----	----
Lithium, total	7439-93-2	E420/CG	0.0010	mg/L		0.0017	----	----	----	----
Magnesium, total	7439-95-4	E420/CG	0.0050	mg/L		3.16	----	----	----	----
Manganese, total	7439-96-5	E420/CG	0.00010	mg/L		0.00282	----	----	----	----
Mercury, total	7439-97-6	E508/CG	0.0000050	mg/L		0.0000063 RRV	----	----	----	----
Molybdenum, total	7439-98-7	E420/CG	0.000050	mg/L		0.000184	----	----	----	----
Nickel, total	7440-02-0	E420/CG	0.00050	mg/L		<0.00050	----	----	----	----
Phosphorus, total	7723-14-0	E420/CG	0.050	mg/L		<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/CG	0.050	mg/L		1.61	----	----	----	----
Rubidium, total	7440-17-7	E420/CG	0.00020	mg/L		0.00216	----	----	----	----
Selenium, total	7782-49-2	E420/CG	0.000050	mg/L		<0.000050	----	----	----	----
Silicon, total	7440-21-3	E420/CG	0.10	mg/L		0.35	----	----	----	----
Silver, total	7440-22-4	E420/CG	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/CG	0.050	mg/L		2.53	----	----	----	----
Strontium, total	7440-24-6	E420/CG	0.00020	mg/L		0.0528	----	----	----	----
Sulfur, total	7704-34-9	E420/CG	0.50	mg/L		2.98	----	----	----	----
Tellurium, total	13494-80-9	E420/CG	0.00020	mg/L		<0.00020	----	----	----	----

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-0000 3-020	GLG-2024-0000 3-022	GLG-2024-0000 3-023	----	----
					Client sampling date / time	22-Aug-2024 12:00	22-Aug-2024 12:15	22-Aug-2024 12:20	----	----
						YL2401272-006	YL2401272-007	YL2401272-008	--------	--------
						Result	Result	Result	----	----
Total Metals										
Thallium, total	7440-28-0	E420/CG	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/CG	0.00010	mg/L		<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/CG	0.00010	mg/L		<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/CG	0.00030	mg/L		<0.00030	----	----	----	----
Tungsten, total	7440-33-7	E420/CG	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/CG	0.000010	mg/L		0.000158	----	----	----	----
Vanadium, total	7440-62-2	E420/CG	0.00050	mg/L		<0.00050	----	----	----	----
Zinc, total	7440-66-6	E420/CG	0.0030	mg/L		<0.0030	----	----	----	----
Zirconium, total	7440-67-7	E420/CG	0.00020	mg/L		<0.00020	----	----	----	----
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/CG	0.050	mg/L		13.1	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/CG	0.0050	mg/L		3.16	----	----	----	----
Potassium, dissolved	7440-09-7	E421/CG	0.050	mg/L		1.58	----	----	----	----
Sodium, dissolved	7440-23-5	E421/CG	0.050	mg/L		2.50	----	----	----	----
Dissolved metals filtration location	----	EP421/CG	-	-		Field	----	----	----	----
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Toluene	108-88-3	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		<0.75	<0.75	<0.75	----	----
BTEX, total	----	E611A/CG	1.2	µg/L		<1.2	<1.2	<1.2	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	----	----
F1-BTEX	----	EC580/CG	100	µg/L		<100	<100	<100	----	----
F2 (C10-C16)	----	E601/CG	100	µg/L		<100	<100	<100	----	----
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	<250	<250	----	----
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	<250	<250	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	<400	<400	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00003-020	GLG-2024-00003-022	GLG-2024-00003-023	----	----
					Client sampling date / time	22-Aug-2024 12:00	22-Aug-2024 12:15	22-Aug-2024 12:20	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401272-006	YL2401272-007	YL2401272-008	--------	--------
						Result	Result	Result	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		95.7	98.3	95.4	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		93.3	94.3	93.2	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		91.9	90.2	89.8	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		104	102	104	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401272**	Page	: 1 of 22
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 23-Aug-2024 10:43
PO	: ----	Issue Date	: 30-Aug-2024 18:10
C-O-C number	: ----		
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-009	E298	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-014	E298	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-015	E298	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-016	E298	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-017	E298	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00003-020	E298	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-009	E235.Cl	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-014	E235.Cl	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-015	E235.Cl	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-016	E235.Cl	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-017	E235.Cl	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00003-020	E235.Cl	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00003-009	E378-U	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00003-014	E378-U	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00003-015	E378-U	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00003-016	E378-U	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00003-017	E378-U	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00003-020	E378-U	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-009	E235.NO3-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-014	E235.NO3-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-015	E235.NO3-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-016	E235.NO3-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-017	E235.NO3-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-020	E235.NO3-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00003-009	E235.NO2-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00003-014	E235.NO2-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00003-015	E235.NO2-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00003-016	E235.NO2-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00003-017	E235.NO2-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00003-020	E235.NO2-L	22-Aug-2024	26-Aug-2024	3 days	4 days	× EHT	26-Aug-2024	3 days	4 days	× EHT
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-009	E235.SO4	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-014	E235.SO4	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-015	E235.SO4	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00003-016	E235.SO4	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00003-017	E235.SO4	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00003-020	E235.SO4	22-Aug-2024	26-Aug-2024	28 days	4 days	✓	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-009	E372-U	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-014	E372-U	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-015	E372-U	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-016	E372-U	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-017	E372-U	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-020	E372-U	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
GLG-2024-00003-009	E421	22-Aug-2024	27-Aug-2024	180 days	5 days	✓	28-Aug-2024	180 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-014	E421	22-Aug-2024	27-Aug-2024	180 days	5 days	✓	28-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-015	E421	22-Aug-2024	27-Aug-2024	180 days	5 days	✓	28-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-016	E421	22-Aug-2024	27-Aug-2024	180 days	5 days	✓	28-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-017	E421	22-Aug-2024	27-Aug-2024	180 days	5 days	✓	28-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00003-020	E421	22-Aug-2024	27-Aug-2024	180 days	5 days	✓	28-Aug-2024	180 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-009	E581.F1	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-014	E581.F1	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-015	E581.F1	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-016	E581.F1	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-017	E581.F1	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-020	E581.F1	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-022	E581.F1	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00003-023	E581.F1	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00003-009	E601	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00003-014	E601	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00003-015	E601	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00003-016	E601	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00003-017	E601	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	40 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00003-020	E601	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00003-022	E601	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00003-023	E601	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	40 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-009	E355-L	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-014	E355-L	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-015	E355-L	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-016	E355-L	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-017	E355-L	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00003-020	E355-L	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-009	E290	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-014	E290	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-015	E290	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-016	E290	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-017	E290	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00003-020	E290	22-Aug-2024	27-Aug-2024	14 days	5 days	✓	27-Aug-2024	14 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE										
GLG-2024-00003-009	E100	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE										
GLG-2024-00003-014	E100	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE										
GLG-2024-00003-015	E100	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-016	E100	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-017	E100	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00003-020	E100	22-Aug-2024	27-Aug-2024	28 days	5 days	✓	27-Aug-2024	28 days	5 days	✓
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-009	E108	22-Aug-2024	27-Aug-2024	0.25 hrs	115 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	115 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-020	E108	22-Aug-2024	27-Aug-2024	0.25 hrs	115 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	115 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-014	E108	22-Aug-2024	27-Aug-2024	0.25 hrs	116 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	116 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-017	E108	22-Aug-2024	27-Aug-2024	0.25 hrs	116 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	116 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-016	E108	22-Aug-2024	27-Aug-2024	0.25 hrs	117 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	117 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00003-015	E108	22-Aug-2024	27-Aug-2024	0.25 hrs	118 hrs	× EHTR-FM	27-Aug-2024	0.25 hrs	118 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-009	E162-L	22-Aug-2024	----	----	----		29-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-014	E162-L	22-Aug-2024	----	----	----		29-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-015	E162-L	22-Aug-2024	----	----	----		29-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-016	E162-L	22-Aug-2024	----	----	----		29-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-017	E162-L	22-Aug-2024	----	----	----		29-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00003-020	E162-L	22-Aug-2024	----	----	----		29-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00003-009	E160-L	22-Aug-2024	----	----	----		27-Aug-2024	7 days	5 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00003-014	E160-L	22-Aug-2024	----	----	----		27-Aug-2024	7 days	5 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00003-015	E160-L	22-Aug-2024	----	----	----		27-Aug-2024	7 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00003-016	E160-L	22-Aug-2024	----	----	----		27-Aug-2024	7 days	5 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00003-017	E160-L	22-Aug-2024	----	----	----		27-Aug-2024	7 days	5 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00003-020	E160-L	22-Aug-2024	----	----	----		27-Aug-2024	7 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00003-009	E508	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00003-014	E508	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00003-015	E508	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00003-016	E508	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00003-017	E508	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00003-020	E508	22-Aug-2024	28-Aug-2024	28 days	6 days	✓	28-Aug-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-009	E420	22-Aug-2024	28-Aug-2024	180 days	6 days	✓	28-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-014	E420	22-Aug-2024	28-Aug-2024	180 days	6 days	✓	28-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-015	E420	22-Aug-2024	28-Aug-2024	180 days	6 days	✓	28-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-016	E420	22-Aug-2024	28-Aug-2024	180 days	6 days	✓	28-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-017	E420	22-Aug-2024	28-Aug-2024	180 days	6 days	✓	28-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00003-020	E420	22-Aug-2024	28-Aug-2024	180 days	6 days	✓	28-Aug-2024	180 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-009	E611A	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-014	E611A	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-015	E611A	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-016	E611A	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-017	E611A	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-020	E611A	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-022	E611A	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00003-023	E611A	22-Aug-2024	28-Aug-2024	14 days	6 days	✓	28-Aug-2024	14 days	6 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1617775	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1619013	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1621003	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1621004	1	11	9.0	5.0	✓
Chloride in Water by IC	E235.Cl	1617168	1	7	14.2	5.0	✓
Conductivity in Water	E100	1617773	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1618527	1	15	6.6	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1617017	1	12	8.3	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1617165	2	24	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1617166	2	24	8.3	5.0	✓
pH by Meter	E108	1617774	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1617167	2	24	8.3	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1624617	1	7	14.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1619344	1	9	11.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1618530	1	12	8.3	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1619915	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1618200	1	16	6.2	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1617775	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1619013	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1621003	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1621004	1	11	9.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1618675	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1617168	1	7	14.2	5.0	✓
Conductivity in Water	E100	1617773	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1618527	1	15	6.6	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1617017	1	12	8.3	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1617165	2	24	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1617166	2	24	8.3	5.0	✓
pH by Meter	E108	1617774	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1617167	2	24	8.3	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1624617	1	7	14.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1619344	1	9	11.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1618530	1	12	8.3	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1619915	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1618200	1	16	6.2	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
TSS by Gravimetry (Low Level)	E160-L	1616996	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1617775	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1619013	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1621003	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1621004	1	11	9.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1618675	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1617168	1	7	14.2	5.0	✓
Conductivity in Water	E100	1617773	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1618527	1	15	6.6	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1617017	1	12	8.3	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1617165	2	24	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1617166	2	24	8.3	5.0	✓
Sulfate in Water by IC	E235.SO4	1617167	2	24	8.3	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1624617	1	7	14.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1619344	1	9	11.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1618530	1	12	8.3	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1619915	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1618200	1	16	6.2	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1616996	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1619013	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1621003	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1617168	1	7	14.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1618527	1	15	6.6	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1617017	1	12	8.3	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1617165	2	24	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1617166	2	24	8.3	5.0	✓
Sulfate in Water by IC	E235.SO4	1617167	2	24	8.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1619344	1	9	11.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1618530	1	12	8.3	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1619915	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1618200	1	16	6.2	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Calgary	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Calgary	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L ALS Environmental - Calgary	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Calgary	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Calgary	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Calgary	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Calgary	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Calgary	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Calgary	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Calgary	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Calgary	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Calgary	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Nitrite (as N) converted to Nitrite (as NO2)	EC235.NO2A ALS Environmental - Calgary	Water	Calculation	Nitrite by IC measured as N is converted to the NO2 form by calculation.
Nitrate (as N) converted to Nitrate (as NO3)	EC235.NO3A ALS Environmental - Calgary	Water	Calculation	Nitrate by IC measured as N is converted to the NO3 form by calculation.
F1-BTEX	EC580 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Sum F1 to F4 (C6-C50)	EC581 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Calgary	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Calgary	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Calgary	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Calgary	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Calgary	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **YL2401272**	Page	: 1 of 14
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 23-Aug-2024 10:43
PO	: ----	Date Analysis Commenced	: 26-Aug-2024
C-O-C number	: ----	Issue Date	: 30-Aug-2024 18:10
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Eunice Cura	Lab Analyst	Calgary Inorganics, Calgary, Alberta
George Huang	Supervisor - Inorganic	Calgary Metals, Calgary, Alberta
Gurvinder Kour	Lab Assistant	Calgary Metals, Calgary, Alberta
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Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1617773)											
CG2412093-008	Anonymous	Conductivity	----	E100	2.0	µS/cm	2780	2890	3.88%	10%	----
Physical Tests (QC Lot: 1617774)											
CG2412093-008	Anonymous	pH	----	E108	0.10	pH units	7.25	7.29	0.550%	4%	----
Physical Tests (QC Lot: 1617775)											
CG2412093-008	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	533	555	3.98%	20%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	533	555	3.98%	20%	----
Physical Tests (QC Lot: 1624617)											
YL2401272-001	GLG-2024-00003-015	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	173	168	2.94%	20%	----
Anions and Nutrients (QC Lot: 1617017)											
CG2412096-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0015	0.0021	0.0006	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617165)											
CG2412092-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0500	mg/L	15.9	15.8	0.293%	20%	----
Anions and Nutrients (QC Lot: 1617166)											
CG2412092-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0100	mg/L	0.261	0.253	3.07%	20%	----
Anions and Nutrients (QC Lot: 1617167)											
CG2412092-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	3.00	mg/L	791	785	0.755%	20%	----
Anions and Nutrients (QC Lot: 1617168)											
YL2401273-001	Anonymous	Chloride	16887-00-6	E235.Cl	5.00	mg/L	1550	1550	0.0812%	20%	----
Anions and Nutrients (QC Lot: 1617169)											
YL2401273-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	3.00	mg/L	970	969	0.0286%	20%	----
Anions and Nutrients (QC Lot: 1617170)											
YL2401273-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0500	mg/L	<0.0500	<0.0500	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617171)											
YL2401273-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1618200)											
CG2412050-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0136	0.0133	0.0004	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1619013)											
RG2401306-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.507	0.503	0.773%	20%	----
Organic / Inorganic Carbon (QC Lot: 1619915)											
CG2412144-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	7.62	7.87	3.26%	20%	----
Total Metals (QC Lot: 1618530)											
YL2401273-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0150	mg/L	<0.0150	<0.0150	0	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00050	mg/L	0.0455	0.0460	1.26%	20%	----
		Arsenic, total	7440-38-2	E420	0.00050	mg/L	20.3	20.5	0.704%	20%	----
		Barium, total	7440-39-3	E420	0.00050	mg/L	0.0410	0.0416	1.70%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000250	mg/L	<0.000250	<0.000250	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.050	mg/L	0.357	0.362	0.005	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000250	mg/L	0.000300	0.000322	7.27%	20%	----
		Calcium, total	7440-70-2	E420	0.250	mg/L	775	775	0.0285%	20%	----
		Cesium, total	7440-46-2	E420	0.000050	mg/L	0.00111	0.00109	1.96%	20%	----
		Chromium, total	7440-47-3	E420	0.00250	mg/L	<0.00250	<0.00250	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00050	mg/L	0.162	0.164	1.26%	20%	----
		Copper, total	7440-50-8	E420	0.00250	mg/L	0.0145	0.0145	0.000002	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.050	mg/L	23.1	23.2	0.495%	20%	----
		Lead, total	7439-92-1	E420	0.000250	mg/L	0.00914	0.00918	0.444%	20%	----
		Lithium, total	7439-93-2	E420	0.0050	mg/L	0.0604	0.0585	3.08%	20%	----
		Magnesium, total	7439-95-4	E420	0.0250	mg/L	137	140	1.97%	20%	----
		Manganese, total	7439-96-5	E420	0.00050	mg/L	3.74	3.78	1.25%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000250	mg/L	0.00828	0.00853	2.98%	20%	----
		Nickel, total	7440-02-0	E420	0.00250	mg/L	0.103	0.105	1.79%	20%	----
		Phosphorus, total	7723-14-0	E420	0.250	mg/L	<0.250	<0.250	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.250	mg/L	13.2	13.2	0.452%	20%	----
		Rubidium, total	7440-17-7	E420	0.00100	mg/L	0.0108	0.0109	1.18%	20%	----
		Selenium, total	7782-49-2	E420	0.000250	mg/L	<0.000250	<0.000250	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.50	mg/L	7.36	7.46	1.45%	20%	----
		Silver, total	7440-22-4	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.250	mg/L	396	399	0.956%	20%	----
		Strontium, total	7440-24-6	E420	0.00100	mg/L	9.03	9.09	0.592%	20%	----
		Sulfur, total	7704-34-9	E420	2.50	mg/L	364	369	1.46%	20%	----
		Tellurium, total	13494-80-9	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1618530) - continued											
YL2401273-001	Anonymous	Thallium, total	7440-28-0	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00150	mg/L	<0.00150	<0.00150	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00050	mg/L	0.00113	0.00112	0.00001	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000050	mg/L	0.0147	0.0149	1.02%	20%	----
		Vanadium, total	7440-62-2	E420	0.00250	mg/L	<0.00250	<0.00250	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0150	mg/L	0.358	0.362	1.10%	20%	----
		Zirconium, total	7440-67-7	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
Total Metals (QC Lot: 1619344)											
CG2412141-016	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1618527)											
YL2401273-001	Anonymous	Calcium, dissolved	7440-70-2	E421	0.250	mg/L	782	801	2.39%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0250	mg/L	136	136	0.0340%	20%	----
		Potassium, dissolved	7440-09-7	E421	0.250	mg/L	12.9	13.0	0.881%	20%	----
		Sodium, dissolved	7440-23-5	E421	0.250	mg/L	394	398	0.880%	20%	----
Volatile Organic Compounds (QC Lot: 1621003)											
CG2411997-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	7.28	7.32	0.592%	30%	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	28.6	29.2	1.99%	30%	----
		Toluene	108-88-3	E611A	0.50	µg/L	74.3	74.6	0.387%	30%	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	113	114	0.719%	30%	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	68.5	70.5	2.93%	30%	----
Hydrocarbons (QC Lot: 1621004)											
CG2411997-001	Anonymous	F1 (C6-C10)	----	E581.F1	100	µg/L	710	680	4.28%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1616996)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1617773)						
Conductivity	----	E100	1	µS/cm	1.2	----
Physical Tests (QCLot: 1617775)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1624617)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1617017)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1617165)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1617166)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1617167)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1617168)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1617169)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1617170)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1617171)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1618200)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1619013)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1619915)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1619915) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1618530)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1618530) - continued						
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 1619344)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1618527)						
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Volatile Organic Compounds (QCLot: 1621003)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1618675)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1621004)						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1616996)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	92.4	85.0	115	----
Physical Tests (QCLot: 1617773)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	94.7	90.0	110	----
Physical Tests (QCLot: 1617774)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 1617775)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	98.6	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	99.5	85.0	115	----
Physical Tests (QCLot: 1624617)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	99.7	85.0	115	----
Anions and Nutrients (QCLot: 1617017)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	99.4	80.0	120	----
Anions and Nutrients (QCLot: 1617165)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.0	90.0	110	----
Anions and Nutrients (QCLot: 1617166)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	99.6	90.0	110	----
Anions and Nutrients (QCLot: 1617167)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.7	90.0	110	----
Anions and Nutrients (QCLot: 1617168)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.9	90.0	110	----
Anions and Nutrients (QCLot: 1617169)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1617170)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.7	90.0	110	----
Anions and Nutrients (QCLot: 1617171)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1618200)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.03 mg/L	97.0	80.0	120	----
Anions and Nutrients (QCLot: 1619013)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.3	85.0	115	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 1619915)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	93.0	80.0	120	----
Total Metals (QCLot: 1618530)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	96.2	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	98.7	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	94.8	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	96.7	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	95.5	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	94.3	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	94.6	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	93.0	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	95.1	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	96.0	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	98.1	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	93.7	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	93.4	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	106	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	95.6	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	96.0	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	97.9	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	97.2	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	100	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	92.2	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	96.5	70.0	130	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	98.6	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	94.7	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	89.2	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	98.6	60.0	140	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.4	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	93.5	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	99.2	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	93.7	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	96.2	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	94.0	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	91.2	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	96.0	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1618530) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	97.0	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	94.2	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	95.2	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	96.0	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	90.8	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	97.7	80.0	120	----
Total Metals (QCLot: 1619344)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	106	80.0	120	----
Dissolved Metals (QCLot: 1618527)									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	94.7	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	98.9	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	101	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Volatile Organic Compounds (QCLot: 1621003)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	118	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	109	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	111	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	113	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	114	70.0	130	----
Hydrocarbons (QCLot: 1618675)									
F2 (C10-C16)	----	E601	100	µg/L	3830 µg/L	92.1	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7950 µg/L	92.6	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	4220 µg/L	97.9	70.0	130	----
Hydrocarbons (QCLot: 1621004)									
F1 (C6-C10)	----	E581.F1	100	µg/L	2480 µg/L	87.5	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1617017)										
CG2412096-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0519 mg/L	0.05 mg/L	104	70.0	130	----
Anions and Nutrients (QCLot: 1617165)										
CG2412098-006	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.52 mg/L	2.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1617166)										
CG2412098-006	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.509 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1617167)										
CG2412098-006	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	99.5 mg/L	100 mg/L	99.5	75.0	125	----
Anions and Nutrients (QCLot: 1617168)										
YL2401272-005	GLG-2024-00003-009	Chloride	16887-00-6	E235.Cl	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1617169)										
YL2401272-005	GLG-2024-00003-009	Sulfate (as SO4)	14808-79-8	E235.SO4	100 mg/L	100 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1617170)										
YL2401272-005	GLG-2024-00003-009	Nitrate (as N)	14797-55-8	E235.NO3-L	2.53 mg/L	2.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1617171)										
YL2401272-005	GLG-2024-00003-009	Nitrite (as N)	14797-65-0	E235.NO2-L	0.510 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1618200)										
CG2412050-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0504 mg/L	0.05 mg/L	101	70.0	130	----
Anions and Nutrients (QCLot: 1619013)										
RG2401306-004	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1619915)										
CG2412144-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1618530)										
CG2411987-001	Anonymous	Aluminum, total	7429-90-5	E420	2.30 mg/L	2 mg/L	115	70.0	130	----
		Antimony, total	7440-36-0	E420	0.217 mg/L	0.2 mg/L	108	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.222 mg/L	0.2 mg/L	111	70.0	130	----
		Barium, total	7440-39-3	E420	0.225 mg/L	0.2 mg/L	112	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.435 mg/L	0.4 mg/L	109	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.105 mg/L	0.1 mg/L	105	70.0	130	----
		Boron, total	7440-42-8	E420	1.13 mg/L	1 mg/L	113	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.0454 mg/L	0.04 mg/L	114	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.111 mg/L	0.1 mg/L	111	70.0	130	----
		Chromium, total	7440-47-3	E420	0.460 mg/L	0.4 mg/L	115	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1618530) - continued										
CG2411987-001	Anonymous	Cobalt, total	7440-48-4	E420	0.230 mg/L	0.2 mg/L	115	70.0	130	----
		Copper, total	7440-50-8	E420	0.224 mg/L	0.2 mg/L	112	70.0	130	----
		Iron, total	7439-89-6	E420	23.0 mg/L	20 mg/L	115	70.0	130	----
		Lead, total	7439-92-1	E420	0.212 mg/L	0.2 mg/L	106	70.0	130	----
		Lithium, total	7439-93-2	E420	1.10 mg/L	1 mg/L	110	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.232 mg/L	0.2 mg/L	116	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.225 mg/L	0.2 mg/L	112	70.0	130	----
		Nickel, total	7440-02-0	E420	0.451 mg/L	0.4 mg/L	113	70.0	130	----
		Phosphorus, total	7723-14-0	E420	115 mg/L	100 mg/L	115	70.0	130	----
		Potassium, total	7440-09-7	E420	48.4 mg/L	40 mg/L	121	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.229 mg/L	0.2 mg/L	114	70.0	130	----
		Selenium, total	7782-49-2	E420	0.455 mg/L	0.4 mg/L	114	70.0	130	----
		Silicon, total	7440-21-3	E420	107 mg/L	100 mg/L	107	70.0	130	----
		Silver, total	7440-22-4	E420	0.0461 mg/L	0.04 mg/L	115	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	230 mg/L	200 mg/L	115	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.462 mg/L	0.4 mg/L	115	70.0	130	----
		Thallium, total	7440-28-0	E420	0.0412 mg/L	0.04 mg/L	103	70.0	130	----
		Thorium, total	7440-29-1	E420	0.217 mg/L	0.2 mg/L	108	70.0	130	----
		Tin, total	7440-31-5	E420	0.220 mg/L	0.2 mg/L	110	70.0	130	----
		Titanium, total	7440-32-6	E420	0.458 mg/L	0.4 mg/L	114	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.213 mg/L	0.2 mg/L	106	70.0	130	----
		Uranium, total	7440-61-1	E420	0.0426 mg/L	0.04 mg/L	106	70.0	130	----
		Vanadium, total	7440-62-2	E420	1.15 mg/L	1 mg/L	115	70.0	130	----
		Zinc, total	7440-66-6	E420	4.22 mg/L	4 mg/L	105	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.450 mg/L	0.4 mg/L	112	70.0	130	----
Total Metals (QCLot: 1619344)										
FJ2402572-001	Anonymous	Mercury, total	7439-97-6	E508	0.000107 mg/L	0 mg/L	107	70.0	130	----
Dissolved Metals (QCLot: 1618527)										
CG2411932-002	Anonymous	Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	35.4 mg/L	40 mg/L	88.6	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
Volatile Organic Compounds (QCLot: 1621003)										
CG2411997-001	Anonymous	Benzene	71-43-2	E611A	111 µg/L	100 µg/L	111	70.0	130	----
		Ethylbenzene	100-41-4	E611A	109 µg/L	100 µg/L	109	70.0	130	----
		Toluene	108-88-3	E611A	112 µg/L	100 µg/L	112	70.0	130	----
		Xylene, m+p-	179601-23-1	E611A	235 µg/L	200 µg/L	117	70.0	130	----
		Xylene, o-	95-47-6	E611A	115 µg/L	100 µg/L	115	70.0	130	----

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 22 -

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	Stantec Consulting Ltd.
Contact:	Natalie Normandeau
Phone:	204-509-9864
	Company address below will appear on the final report
Street:	4910 53 Street
City/Province:	Yellowknife/NT
Postal Code:	X1A 2P4
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Merge QC/QCI Reports with COA ☑ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: natalie.normandeau@stantec.com
Email 2: steve.hannington@stantec.com
Email 3: ryan.weber@stantec.com

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: SAPinvoices@stantec.com
Email 2:

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please contact your AM to confirm availability.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information

ALS Client Code / QUOTE #: YL24-STAC100-0003
Job / Project #: Gordon Lake - Phase I LTMP - Water
PO / AFE:
LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#
Major/Minor Code: Routing Code:
Requisitioner:
Location:

ALS Lab Work Order # (ALS use only):
ALS Contact: Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	GroundWater Package	Surface Water Package SNP	Surface Water Package West Bay 1	Surface Water Package West Bay 2	Water QC	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	GLG-2024-00003-015	22-08-24	9:30	Water	10		✓						
	GLG-2024-00003-016	22-08-24	10:10	Water	10		✓						
	GLG-2024-00003-017	22-08-24	10:45	Water	10		✓						
	GLG-2024-00003-014	22-08-24	11:15	Water	10		✓						
	GLG-2024-00003-009	22-08-24	12:00	Water	10		✓						
	GLG-2024-00003-020	22-08-24	12:00	Water	10		✓						
	GLG-2024-00003-021	22-08-24	12:15	Water	4					✓			
	GLG-2024-00003-022	22-08-24	12:20	Water	4					✓			

Environmental Division
Yellowknife
Work Order Reference
YL2401272

Telephone: +1 867 873 5693

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO
Are samples for human consumption/ use? ☐ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
9.8							

SHIPMENT RELEASE (client use)

Released by: Magdu Celyiewski Date: Aug 23/24 Time: 9:00

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by: Date: 23-08-24 Time: 10:43

FINAL SHIPMENT RECEPTION (ALS use only)

Received by: Date: Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

MAY 2022 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401469**	Page	: 1 of 10
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 12-Sep-2024 15:35
PO	: ----	Date Analysis Commenced	: 16-Sep-2024
C-O-C number	: ----	Issue Date	: 20-Sep-2024 17:02
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Erin Sanchez		Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Organics, Burnaby, British Columbia
Nguyen Tran	Laboratory Analyst	Organics, Calgary, Alberta
Owen Cheng		Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-009	GLG-2024-00004-014	GLG-2024-00004-015	GLG-2024-00004-016	GLG-2024-00004-017
					Client sampling date / time	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00
						YL2401469-001	YL2401469-002	YL2401469-003	YL2401469-004	YL2401469-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		45.2	41.6	90.7	41.8	41.3
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		45.2	41.6	90.7	41.8	41.3
Conductivity	----	E100/VA	2.0	µS/cm		110	99.3	187	99.0	99.6
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		47.3	43.4	88.5	42.9	41.6
pH	----	E108/VA	0.10	pH units		7.90	7.86	7.94	7.86	7.90
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		68.2	64.5	169	65.5	60.5
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		<1.0	<1.0	5.0	<1.0	<1.0
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		45.3	42.4	90.4	43.6	43.2
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.0056	<0.0050	0.0487	<0.0050	<0.0050
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		1.43	1.42	0.63	1.42	1.42
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		<0.0050	<0.0050	0.0109	<0.0050	<0.0050
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		<0.022	<0.022	0.048	<0.022	<0.022
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		<0.0051	<0.0051	0.0109	<0.0051	<0.0051
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0069	0.0046	0.0248	0.0054	0.0076
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		9.67	7.78	7.97	7.73	7.74
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		3.23	2.60	24.4	2.91	2.68
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0121	0.0092	0.0143	0.0094	0.0090

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-009	GLG-2024-00004-014	GLG-2024-00004-015	GLG-2024-00004-016	GLG-2024-00004-017
					Client sampling date / time	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00
						YL2401469-001	YL2401469-002	YL2401469-003	YL2401469-004	YL2401469-005
						Result	Result	Result	Result	Result
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00143	0.00035	0.00321	0.00035	0.00036
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00603	0.00450	0.0154	0.00480	0.00441
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	<0.010	0.011	<0.010	<0.010
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		13.7	12.3	23.2	12.2	11.8
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	<0.000010	0.000020	<0.000010	<0.000010
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		<0.00010	<0.00010	0.00062	<0.00010	<0.00010
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00052	<0.00050	<0.00050	<0.00050	0.00053
Iron, total	7439-89-6	E420/VA	0.010	mg/L		<0.010	<0.010	0.049	<0.010	<0.010
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0021	0.0021	0.0078	0.0021	0.0021
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		3.19	3.09	7.42	3.02	2.96
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00318	0.00188	0.0593	0.00299	0.00214
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000420	0.000092	0.000066	0.000096	0.000095
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.00052	<0.00050	0.00699	<0.00050	0.00050
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.51	1.49	2.58	1.49	1.44
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00209	0.00213	0.00379	0.00202	0.00200
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		0.40	0.15	0.53	0.17	0.15
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		2.43	2.30	5.32	2.31	2.29
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0584	0.0457	0.106	0.0462	0.0439
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		3.67	2.86	3.74	3.05	2.79
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-009	GLG-2024-00004-014	GLG-2024-00004-015	GLG-2024-00004-016	GLG-2024-00004-017
					Client sampling date / time	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00
						YL2401469-001	YL2401469-002	YL2401469-003	YL2401469-004	YL2401469-005
						Result	Result	Result	Result	Result
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000421	0.000100	0.000055	0.000095	0.000104
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	<0.00050	0.00056	<0.00050	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		13.0	12.2	24.0	12.4	12.4
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		3.11	2.90	7.41	3.06	2.98
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.50	1.47	2.73	1.52	1.51
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		2.39	2.26	5.61	2.38	2.33
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, o-	95-47-6	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes, total	1330-20-7	E611A/VA	0.75	µg/L		<0.75	<0.75	<0.75	<0.75	<0.75
BTEX, total	----	E611A/VA	1.2	µg/L		<1.2	<1.2	<1.2	<1.2	<1.2
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	<100	<100
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	<100	<100	<100
F2 (C10-C16)	----	E601/VA	100	µg/L		<100	<100	<100	<100	<100
F3 (C16-C34)	----	E601/VA	250	µg/L		<250	<250	<250	<250	<250
F4 (C34-C50)	----	E601/VA	250	µg/L		<250	<250	<250	<250	<250
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	400	µg/L		<400	<400	<400	<400	<400

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00004-009	GLG-2024-00004-014	GLG-2024-00004-015	GLG-2024-00004-016	GLG-2024-00004-017
					Client sampling date / time	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401469-001	YL2401469-002	YL2401469-003	YL2401469-004	YL2401469-005
						Result	Result	Result	Result	Result
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		95.8	87.8	91.5	90.2	106
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		112	97.7	95.6	107	108
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		83.9	84.4	84.3	82.5	80.9
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		100	100	100	100	101

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-020	GLG-2024-00004-022	GLG-2024-00004-023	----	----
					Client sampling date / time	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	----	----
						YL2401469-006	YL2401469-007	YL2401469-008	--------	--------
						Result	Result	Result	----	----
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		44.7	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		44.7	----	----	----	----
Conductivity	----	E100/VA	2.0	µS/cm		109	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		47.3	----	----	----	----
pH	----	E108/VA	0.10	pH units		7.91	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		69.2	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		<1.0	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		45.6	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.0060	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		1.42	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		<0.0050	----	----	----	----
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		<0.022	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		<0.0051	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		<0.0010	----	----	----	----
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		<0.0033	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		<0.0010	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0063	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		9.58	----	----	----	----
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		3.49	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0114	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00004-020	GLG-2024-00004-022	GLG-2024-00004-023	----	----
					Client sampling date / time	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401469-006	YL2401469-007	YL2401469-008	--------	--------
						Result	Result	Result	----	----
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00140	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00603	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		13.6	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00051	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		<0.010	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0021	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		3.24	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00310	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000428	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.49	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00211	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		0.40	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		2.33	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0600	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		3.63	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-020	GLG-2024-00004-022	GLG-2024-00004-023	----	----
					Client sampling date / time	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	----	----
						YL2401469-006	YL2401469-007	YL2401469-008	--------	--------
						Result	Result	Result	----	----
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00030	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000410	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		13.2	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		3.06	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.56	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		2.38	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	----	----	----	----
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Xylene, o-	95-47-6	E611A/VA	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Xylenes, total	1330-20-7	E611A/VA	0.75	µg/L		<0.75	<0.75	<0.75	----	----
BTEX, total	----	E611A/VA	1.2	µg/L		<1.2	<1.2	<1.2	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	----	----
F1-BTEX	----	EC580/VA	100	µg/L		<100	<100	<100	----	----
F2 (C10-C16)	----	E601/VA	100	µg/L		<100	<100	<100	----	----
F3 (C16-C34)	----	E601/VA	250	µg/L		<250	<250	<250	----	----
F4 (C34-C50)	----	E601/VA	250	µg/L		<250	<250	<250	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	400	µg/L		<400	<400	<400	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00004-020	GLG-2024-00004-022	GLG-2024-00004-023	----	----
					Client sampling date / time	11-Sep-2024 00:00	11-Sep-2024 00:00	11-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401469-006	YL2401469-007	YL2401469-008	--------	--------
						Result	Result	Result	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		95.0	89.2	104	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		111	105	109	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		83.8	82.1	84.0	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		100	100	100	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401469**	Page	: 1 of 23
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 12-Sep-2024 15:35
PO	: ----	Issue Date	: 20-Sep-2024 17:03
C-O-C number	: ----		
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Method Blank value outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Total Metals	QC-MRG2-1657824 001	----	Manganese, total	7439-96-5	E420	0.00010 B mg/L	0.0001 mg/L	Blank result exceeds permitted value

Result Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-009	E298	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	17-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-014	E298	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	17-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-015	E298	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	17-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-016	E298	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	17-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-017	E298	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	17-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-020	E298	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	17-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-009	E235.Cl	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-014	E235.Cl	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-015	E235.Cl	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-016	E235.Cl	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-017	E235.Cl	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-020	E235.Cl	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00004-009	E378-U	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00004-014	E378-U	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00004-015	E378-U	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00004-016	E378-U	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00004-017	E378-U	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00004-020	E378-U	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00004-009	E235.NO3-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00004-014	E235.NO3-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00004-015	E235.NO3-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00004-016	E235.NO3-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00004-017	E235.NO3-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GLG-2024-00004-020	E235.NO3-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-009	E235.NO2-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-014	E235.NO2-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-015	E235.NO2-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-016	E235.NO2-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-017	E235.NO2-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-020	E235.NO2-L	11-Sep-2024	16-Sep-2024	3 days	6 days	× EHT	16-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-009	E235.SO4	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-014	E235.SO4	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-015	E235.SO4	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-016	E235.SO4	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00004-017	E235.SO4	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GLG-2024-00004-020	E235.SO4	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-009	E372-U	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	18-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-014	E372-U	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	18-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-015	E372-U	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	18-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-016	E372-U	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	18-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-017	E372-U	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	18-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-020	E372-U	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	18-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
GLG-2024-00004-009	E421	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00004-014	E421	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00004-015	E421	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00004-016	E421	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00004-017	E421	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GLG-2024-00004-020	E421	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-009	E581.F1	11-Sep-2024	19-Sep-2024	14 days	8 days	✓	19-Sep-2024	14 days	8 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-014	E581.F1	11-Sep-2024	19-Sep-2024	14 days	8 days	✓	19-Sep-2024	14 days	8 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-015	E581.F1	11-Sep-2024	19-Sep-2024	14 days	8 days	✓	19-Sep-2024	14 days	8 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-016	E581.F1	11-Sep-2024	19-Sep-2024	14 days	8 days	✓	19-Sep-2024	14 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-017	E581.F1	11-Sep-2024	19-Sep-2024	14 days	8 days	✓	19-Sep-2024	14 days	8 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-020	E581.F1	11-Sep-2024	19-Sep-2024	14 days	8 days	✓	19-Sep-2024	14 days	8 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-022	E581.F1	11-Sep-2024	19-Sep-2024	14 days	8 days	✓	19-Sep-2024	14 days	8 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-023	E581.F1	11-Sep-2024	19-Sep-2024	14 days	8 days	✓	19-Sep-2024	14 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00004-009	E601	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	19-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00004-014	E601	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	19-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00004-015	E601	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	19-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00004-016	E601	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	19-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00004-017	E601	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	19-Sep-2024	40 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00004-020	E601	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	19-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00004-022	E601	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	19-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00004-023	E601	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	19-Sep-2024	40 days	1 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-009	E355-L	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-014	E355-L	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-015	E355-L	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-016	E355-L	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-017	E355-L	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-020	E355-L	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00004-009	E290	11-Sep-2024	16-Sep-2024	14 days	6 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00004-014	E290	11-Sep-2024	16-Sep-2024	14 days	6 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00004-015	E290	11-Sep-2024	16-Sep-2024	14 days	6 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00004-016	E290	11-Sep-2024	16-Sep-2024	14 days	6 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00004-017	E290	11-Sep-2024	16-Sep-2024	14 days	6 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
GLG-2024-00004-020	E290	11-Sep-2024	16-Sep-2024	14 days	6 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE										
GLG-2024-00004-009	E100	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE										
GLG-2024-00004-014	E100	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE										
GLG-2024-00004-015	E100	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-016	E100	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-017	E100	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-020	E100	11-Sep-2024	16-Sep-2024	28 days	6 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-009	E108	11-Sep-2024	16-Sep-2024	0.25 hrs	136 hrs	× EHTR-FM	16-Sep-2024	0.25 hrs	140 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-014	E108	11-Sep-2024	16-Sep-2024	0.25 hrs	136 hrs	× EHTR-FM	16-Sep-2024	0.25 hrs	140 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-015	E108	11-Sep-2024	16-Sep-2024	0.25 hrs	136 hrs	× EHTR-FM	16-Sep-2024	0.25 hrs	140 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-016	E108	11-Sep-2024	16-Sep-2024	0.25 hrs	136 hrs	× EHTR-FM	16-Sep-2024	0.25 hrs	140 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-017	E108	11-Sep-2024	16-Sep-2024	0.25 hrs	136 hrs	× EHTR-FM	16-Sep-2024	0.25 hrs	140 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-020	E108	11-Sep-2024	16-Sep-2024	0.25 hrs	136 hrs	× EHTR-FM	16-Sep-2024	0.25 hrs	140 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-009	E162-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-014	E162-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-015	E162-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-016	E162-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-017	E162-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-020	E162-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00004-009	E160-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00004-014	E160-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00004-015	E160-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00004-016	E160-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00004-017	E160-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GLG-2024-00004-020	E160-L	11-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-009	E508	11-Sep-2024	19-Sep-2024	28 days	8 days	✓	19-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-014	E508	11-Sep-2024	19-Sep-2024	28 days	8 days	✓	19-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-015	E508	11-Sep-2024	19-Sep-2024	28 days	8 days	✓	19-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-016	E508	11-Sep-2024	19-Sep-2024	28 days	8 days	✓	19-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-017	E508	11-Sep-2024	19-Sep-2024	28 days	8 days	✓	19-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-020	E508	11-Sep-2024	19-Sep-2024	28 days	8 days	✓	19-Sep-2024	28 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00004-009	E420	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00004-014	E420	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00004-015	E420	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00004-016	E420	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00004-017	E420	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GLG-2024-00004-020	E420	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	9 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-009	E611A	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	18-Sep-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-014	E611A	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	18-Sep-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-015	E611A	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	18-Sep-2024	14 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-016	E611A	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	18-Sep-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-017	E611A	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	18-Sep-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-020	E611A	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	18-Sep-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-022	E611A	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	18-Sep-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-023	E611A	11-Sep-2024	18-Sep-2024	14 days	8 days	✓	18-Sep-2024	14 days	8 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1654186	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1654331	1	6	16.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1658600	1	17	5.8	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1659896	1	10	10.0	5.0	✓
Chloride in Water by IC	E235.Cl	1654189	1	19	5.2	5.0	✓
Conductivity in Water	E100	1654185	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1657891	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1654193	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1654192	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1654191	1	19	5.2	5.0	✓
pH by Meter	E108	1654184	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1654188	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1657047	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1659751	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1657824	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1654329	1	6	16.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1654330	1	6	16.6	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1654186	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1654331	1	6	16.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1658600	1	17	5.8	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1659896	1	10	10.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1659098	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1654189	1	19	5.2	5.0	✓
Conductivity in Water	E100	1654185	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1657891	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1654193	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1654192	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1654191	1	19	5.2	5.0	✓
pH by Meter	E108	1654184	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1654188	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1657047	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1659751	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1657824	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1654329	1	6	16.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1654330	1	6	16.6	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
TSS by Gravimetry (Low Level)	E160-L	1657052	1	18	5.5	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1654186	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1654331	1	6	16.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1658600	1	17	5.8	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1659896	1	10	10.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1659098	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1654189	1	19	5.2	5.0	✓
Conductivity in Water	E100	1654185	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1657891	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1654193	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1654192	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1654191	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1654188	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1657047	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1659751	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1657824	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1654329	1	6	16.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1654330	1	6	16.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1657052	1	18	5.5	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1654331	1	6	16.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1658600	1	17	5.8	5.0	✓
Chloride in Water by IC	E235.Cl	1654189	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1657891	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1654193	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1654192	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1654191	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1654188	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1659751	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1657824	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1654329	1	6	16.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1654330	1	6	16.6	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Vancouver	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in $CaCO_3$ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in $CaCO_3$ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Vancouver	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Nitrite (as N) converted to Nitrite (as NO2)	EC235.NO2A ALS Environmental - Vancouver	Water	Calculation	Nitrite by IC measured as N is converted to the NO2 form by calculation.
Nitrate (as N) converted to Nitrate (as NO3)	EC235.NO3A ALS Environmental - Vancouver	Water	Calculation	Nitrate by IC measured as N is converted to the NO3 form by calculation.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Sum F1 to F4 (C6-C50)	EC581 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **YL2401469**	Page	: 1 of 13
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 12-Sep-2024 15:35
PO	: ----	Date Analysis Commenced	: 16-Sep-2024
C-O-C number	: ----	Issue Date	: 20-Sep-2024 17:02
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 8		
No. of samples analysed	: 8		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Erin Sanchez		Vancouver Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Vancouver Inorganics, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Vancouver Organics, Burnaby, British Columbia
Nguyen Tran	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1654184)											
VA24C4184-001	Anonymous	pH	----	E108	0.10	pH units	8.09	8.12	0.370%	4%	----
Physical Tests (QC Lot: 1654185)											
VA24C4184-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	705	699	0.855%	10%	----
Physical Tests (QC Lot: 1654186)											
VA24C4184-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	305	306	0.360%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	305	306	0.360%	20%	----
Physical Tests (QC Lot: 1657047)											
VA24C3598-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	202	211	4.35%	20%	----
Anions and Nutrients (QC Lot: 1654188)											
VA24C4184-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	104	104	0.0423%	20%	----
Anions and Nutrients (QC Lot: 1654189)											
VA24C4184-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1654191)											
VA24C4184-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1654192)											
VA24C4184-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1654193)											
YL2401469-001	GLG-2024-00004-009	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1654330)											
YL2401469-001	GLG-2024-00004-009	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0069	0.0068	0.00008	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1654331)											
YL2401469-001	GLG-2024-00004-009	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0056	0.0063	0.0006	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1654329)											
YL2401469-001	GLG-2024-00004-009	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	3.23	3.29	0.06	Diff <2x LOR	----
Total Metals (QC Lot: 1657824)											
YL2401464-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0060	mg/L	0.0237	0.0208	0.0028	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1657824) - continued											
YL2401464-001	Anonymous	Antimony, total	7440-36-0	E420	0.00020	mg/L	0.0132	0.0130	1.60%	20%	----
		Arsenic, total	7440-38-2	E420	0.00020	mg/L	0.492	0.487	1.14%	20%	----
		Barium, total	7440-39-3	E420	0.00020	mg/L	0.0488	0.0489	0.322%	20%	----
		Beryllium, total	7440-41-7	E420	0.000040	mg/L	<0.000040	<0.000040	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.020	mg/L	0.329	0.306	7.40%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000100	mg/L	0.0000175	0.0000166	0.0000009	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.100	mg/L	750	736	1.92%	20%	----
		Cesium, total	7440-46-2	E420	0.000020	mg/L	0.000328	0.000319	2.58%	20%	----
		Chromium, total	7440-47-3	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00020	mg/L	0.00270	0.00267	0.862%	20%	----
		Copper, total	7440-50-8	E420	0.00100	mg/L	0.00739	0.00716	0.00023	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.020	mg/L	0.091	0.088	0.002	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000100	mg/L	0.000117	0.000110	0.000006	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0020	mg/L	0.0608	0.0585	3.96%	20%	----
		Magnesium, total	7439-95-4	E420	0.0100	mg/L	156	156	0.359%	20%	----
		Manganese, total	7439-96-5	E420	0.00020	mg/L	0.159	0.157	1.50%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000100	mg/L	0.00223	0.00207	7.63%	20%	----
		Nickel, total	7440-02-0	E420	0.00100	mg/L	0.0222	0.0215	3.30%	20%	----
		Phosphorus, total	7723-14-0	E420	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.100	mg/L	13.3	13.2	1.39%	20%	----
		Rubidium, total	7440-17-7	E420	0.00040	mg/L	0.0153	0.0151	1.24%	20%	----
		Selenium, total	7782-49-2	E420	0.000100	mg/L	0.000222	0.000169	0.000052	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.20	mg/L	4.01	4.10	2.15%	20%	----
		Silver, total	7440-22-4	E420	0.000020	mg/L	0.000066	0.000067	0.000002	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.100	mg/L	399	394	1.28%	20%	----
		Strontium, total	7440-24-6	E420	0.00040	mg/L	8.82	8.59	2.66%	20%	----
		Sulfur, total	7704-34-9	E420	1.00	mg/L	388	386	0.470%	20%	----
		Tellurium, total	13494-80-9	E420	0.00040	mg/L	0.00151	0.00124	0.00028	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00020	mg/L	0.00029	0.00028	0.000007	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1657824) - continued											
YL2401464-001	Anonymous	Uranium, total	7440-61-1	E420	0.000020	mg/L	0.00159	0.00155	2.30%	20%	----
		Vanadium, total	7440-62-2	E420	0.00100	mg/L	0.00144	0.00138	0.00006	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0060	mg/L	<0.0060	<0.0060	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
Total Metals (QC Lot: 1659751)											
VA24C4586-005	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1657891)											
YL2401464-001	Anonymous	Calcium, dissolved	7440-70-2	E421	0.100	mg/L	759	751	1.03%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	155	153	1.36%	20%	----
		Potassium, dissolved	7440-09-7	E421	0.100	mg/L	13.6	13.3	2.28%	20%	----
		Sodium, dissolved	7440-23-5	E421	0.100	mg/L	398	394	0.950%	20%	----
Volatile Organic Compounds (QC Lot: 1658600)											
VA24C4496-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1659896)											
CG2413527-001	Anonymous	F1 (C6-C10)	----	E581.F1	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1654185)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1654186)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1657047)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1657052)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1654188)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1654189)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1654191)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1654192)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1654193)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1654330)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1654331)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1654329)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1657824)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1657824) - continued						
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	# 0.00010	B
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1659751)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1657891)						
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Volatile Organic Compounds (QCLot: 1658600)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1659098)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1659896)						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----

Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1654184)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1654185)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	96.2	90.0	110	----
Physical Tests (QCLot: 1654186)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	98.8	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1657047)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	111	85.0	115	----
Physical Tests (QCLot: 1657052)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	93.8	85.0	115	----
Anions and Nutrients (QCLot: 1654188)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1654189)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1654191)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1654192)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1654193)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	104	80.0	120	----
Anions and Nutrients (QCLot: 1654330)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	93.3	80.0	120	----
Anions and Nutrients (QCLot: 1654331)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.6	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1654329)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	95.8	80.0	120	----
Total Metals (QCLot: 1657824)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	103	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	105	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1657824) - continued									
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	104	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	107	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	101	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	98.0	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	94.1	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	98.5	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.3	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.8	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.1	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	101	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	98.6	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	105	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	95.8	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	101	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	96.9	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	102	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	97.2	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	101	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	103	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	94.5	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	102	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	96.0	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.3	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	106	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	103	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1657824) - continued									
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	99.4	80.0	120	----
Total Metals (QCLot: 1659751)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	98.8	80.0	120	----
Dissolved Metals (QCLot: 1657891)									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	93.8	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	101	80.0	120	----
Volatile Organic Compounds (QCLot: 1658600)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	87.1	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	82.8	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	88.1	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	97.0	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	83.4	70.0	130	----
Hydrocarbons (QCLot: 1659098)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	114	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	102	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	109	70.0	130	----
Hydrocarbons (QCLot: 1659896)									
F1 (C6-C10)	----	E581.F1	100	µg/L	2480 µg/L	90.5	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1654188)										
VA24C4184-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1654189)										
VA24C4184-002	Anonymous	Chloride	16887-00-6	E235.Cl	1970 mg/L	2000 mg/L	98.4	75.0	125	----
Anions and Nutrients (QCLot: 1654191)										
VA24C4184-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	10.2 mg/L	10 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1654192)										
VA24C4184-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	49.2 mg/L	50 mg/L	98.5	75.0	125	----
Anions and Nutrients (QCLot: 1654193)										
YL2401469-002	GLG-2024-00004-014	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0297 mg/L	0.03 mg/L	99.1	70.0	130	----
Anions and Nutrients (QCLot: 1654330)										
YL2401469-002	GLG-2024-00004-014	Phosphorus, total	7723-14-0	E372-U	0.0467 mg/L	0.05 mg/L	93.4	70.0	130	----
Anions and Nutrients (QCLot: 1654331)										
YL2401469-002	GLG-2024-00004-014	Ammonia, total (as N)	7664-41-7	E298	0.0963 mg/L	0.1 mg/L	96.3	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1654329)										
YL2401469-002	GLG-2024-00004-014	Carbon, total organic [TOC]	----	E355-L	5.13 mg/L	5 mg/L	102	70.0	130	----
Total Metals (QCLot: 1657824)										
YL2401464-002	Anonymous	Aluminum, total	7429-90-5	E420	0.386 mg/L	0.4 mg/L	96.4	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0399 mg/L	0.04 mg/L	99.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0778 mg/L	0.08 mg/L	97.2	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0162 mg/L	0.02 mg/L	81.0	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00709 mg/L	0.008 mg/L	88.7	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0201 mg/L	0.02 mg/L	101	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0738 mg/L	0.08 mg/L	92.2	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0361 mg/L	0.04 mg/L	90.2	70.0	130	----
		Copper, total	7440-50-8	E420	0.0325 mg/L	0.04 mg/L	81.2	70.0	130	----
		Iron, total	7439-89-6	E420	3.75 mg/L	4 mg/L	93.6	70.0	130	----
		Lead, total	7439-92-1	E420	0.0338 mg/L	0.04 mg/L	84.5	70.0	130	----
		Lithium, total	7439-93-2	E420	0.196 mg/L	0.2 mg/L	97.8	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0420 mg/L	0.04 mg/L	105	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1657824) - continued										
YL2401464-002	Anonymous	Nickel, total	7440-02-0	E420	0.0671 mg/L	0.08 mg/L	83.9	70.0	130	----
		Phosphorus, total	7723-14-0	E420	19.7 mg/L	20 mg/L	98.7	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0766 mg/L	0.08 mg/L	95.7	70.0	130	----
		Silicon, total	7440-21-3	E420	19.3 mg/L	20 mg/L	96.6	70.0	130	----
		Silver, total	7440-22-4	E420	0.00756 mg/L	0.008 mg/L	94.5	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0794 mg/L	0.08 mg/L	99.3	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00674 mg/L	0.008 mg/L	84.3	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0383 mg/L	0.04 mg/L	95.8	70.0	130	----
		Tin, total	7440-31-5	E420	0.0376 mg/L	0.04 mg/L	94.0	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0782 mg/L	0.08 mg/L	97.8	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0374 mg/L	0.04 mg/L	93.4	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00769 mg/L	0.008 mg/L	96.2	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.192 mg/L	0.2 mg/L	96.1	70.0	130	----
		Zinc, total	7440-66-6	E420	0.682 mg/L	0.8 mg/L	85.2	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0826 mg/L	0.08 mg/L	103	70.0	130	----
Total Metals (QCLot: 1659751)										
VA24C4586-006	Anonymous	Mercury, total	7439-97-6	E508	0.0000964 mg/L	0 mg/L	96.4	70.0	130	----
Dissolved Metals (QCLot: 1657891)										
YL2401464-002	Anonymous	Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
Volatile Organic Compounds (QCLot: 1658600)										
VA24C4496-001	Anonymous	Benzene	71-43-2	E611A	93.5 µg/L	100 µg/L	93.5	60.0	140	----
		Ethylbenzene	100-41-4	E611A	89.8 µg/L	100 µg/L	89.8	60.0	140	----
		Toluene	108-88-3	E611A	95.1 µg/L	100 µg/L	95.1	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	208 µg/L	200 µg/L	104	60.0	140	----
		Xylene, o-	95-47-6	E611A	89.6 µg/L	100 µg/L	89.6	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

COC Number: 22 -

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Report To	Contact and company name below will appear on the final report
Company:	Stantec Consulting Ltd.
Contact:	Natalie Normandeau
Phone:	204 509-9864
	Company address below will appear on the final report
Street:	4910 53 Street
City/Province:	Yellowknife/NT
Postal Code:	X1A 2P4
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Stantec Consulting Ltd.
Contact:	Natalie Normandeau

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Merge QC/QCI Reports with COA ☑ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax natalie.normandeau@stantec.com
Email 2 steve.hannington@stantec.com
Email 3 ryan.weber@stantec.com

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax SAPinvoices@stantec.com
Email 2

Turnaround Time (TAT) Requested

☐ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

For all tests with rush TATs requested, please contact your AM to confirm availability.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information

ALS Client Code / QUOTE #:	YL24-STAC100-0003
Job / Project #:	Gordon Lake - Phase I LTMP - Water
PO / AFE:	123515016.400.200
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (ALS use only): YL2401469

ALS Contact: **Sampler:**

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS: GroundWater Package	Surface Water Package SNP	Surface Water Package West Bay 1	Surface Water Package West Bay 2	Water QC	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	GLG-2024-00004-009	11-Sep-24		surface water		R						
	GLG-2024-00004-014	11-Sep-24		surface water		R						
	GLG-2024-00004-015	11-Sep-24		surface water		R						
	GLG-2024-00004-016	11-Sep-24		surface water		R						
	GLG-2024-00004-017	11-Sep-24		surface water		R						
	GLG-2024-00004-020	11-Sep-24		surface water		R						
	GLG-2024-00004-022	11-Sep-24		surface water					R			
	GLG-2024-00004-023	11-Sep-24		surface water					R			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System?
☐ YES ☑ NO

Are samples for human consumption/ use?
☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
9.1							

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Magda Celejewski	12-Sep-24	8:00

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
SA	SEPT 12/24	1535

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401501**	Page	: 1 of 14
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 13-Sep-2024 09:54
PO	: 123515016.400.200	Date Analysis Commenced	: 17-Sep-2024
C-O-C number	: ----	Issue Date	: 23-Sep-2024 12:47
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 11		
No. of samples analysed	: 11		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Angelo Salandanan	Lab Assistant	Metals, Burnaby, British Columbia
George Huang	Supervisor - Inorganic	Organics, Calgary, Alberta
Joshua Stessun	Laboratory Analyst	Organics, Calgary, Alberta
Jyotsnarani Devi	Laboratory Analyst	Organics, Calgary, Alberta
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Leon Yang	Analyst	Inorganics, Burnaby, British Columbia
Nguyen Tran	Laboratory Analyst	Organics, Calgary, Alberta
Owen Cheng		Metals, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	*Comment*
YL2401501-005	GLG-2024-00004-005	***Sample(s) 005: Water sample for VOC analysis contained > 5% headspace. Results may be biased low.***
YL2401501-005	GLG-2024-00004-005	Water sample for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

Qualifiers

Qualifier	*Description*
DLA	*Detection Limit adjusted for required dilution.*
DLDS	*Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-001	GLG-2024-00004-002	GLG-2024-00004-003	GLG-2024-00004-004	GLG-2024-00004-005
					Client sampling date / time	12-Sep-2024 13:00	12-Sep-2024 13:30	12-Sep-2024 12:15	12-Sep-2024 11:35	12-Sep-2024 12:45
						YL2401501-001	YL2401501-002	YL2401501-003	YL2401501-004	YL2401501-005
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		302	482	717	228	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		302	482	717	228	----
Conductivity	----	E100/VA	2.0	µS/cm		2750	5910	2380	847	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		1670	1370	1230	427	1230
pH	----	E108/VA	0.10	pH units		7.43	8.00	7.71	8.03	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L		2610	5070	1970	655	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L		45.4	3.8	53.2	3.8	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L		1660	1380	1210	438	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.972	0.904	1.85	0.200	0.0762
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		11.6	180	35.2	3.59	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		<0.100 DLDS	<0.250 DLDS	0.107	0.0649	----
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L		<0.443	<1.11	0.474	0.287	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L		<0.102	<0.255	0.107	0.0700	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		<0.0200 DLDS	<0.0500 DLDS	<0.0200 DLDS	0.0051	----
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L		<0.0656	<0.164	<0.0656	0.0167	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0140	0.0504	0.102	0.0172	0.123
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		1490	2870	739	238	----
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L		2.97	9.92	21.6	13.2	9.62
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.112	0.0150	0.0278	0.0354	0.141

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-001	GLG-2024-00004-002	GLG-2024-00004-003	GLG-2024-00004-004	GLG-2024-00004-005
					Client sampling date / time	12-Sep-2024 13:00	12-Sep-2024 13:30	12-Sep-2024 12:15	12-Sep-2024 11:35	12-Sep-2024 12:45
						YL2401501-001	YL2401501-002	YL2401501-003	YL2401501-004	YL2401501-005
						Result	Result	Result	Result	Result
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00020 DLA	0.00072	<0.00010	0.00055	0.00069
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.0217	0.0375	0.0172	0.00529	0.0202
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0227	0.0145	0.281	0.0508	0.0563
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000100 DLA	<0.000250 DLA	<0.000050	<0.000050	<0.000100 DLA
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.147	0.150	0.110	0.026	0.072
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.000401	0.0131	0.0000050	0.000153	0.0000815
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		454	398	343	141	428
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000035	<0.000050 DLA	<0.000010	0.000015	<0.000020 DLA
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00100 DLA	<0.00250 DLA	0.00065	<0.00050	0.00116
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.0152	0.639	0.0242	0.00671	0.0117
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		<0.00100 DLA	<0.00250 DLA	<0.00050	0.00628	0.00184
Iron, total	7439-89-6	E420/VA	0.010	mg/L		44.0	2.45	22.6	1.73	7.70
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000604	0.000451	<0.000050	0.00110	0.00118
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0326	0.0399	0.0328	0.0039	0.0048
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		131	92.0	91.6	18.2	38.2
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		1.26	11.1	4.48	5.10	1.73
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000889	0.00433	0.00108	0.00237	0.00412
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.00555	1.64	0.00129	0.0171	0.0118
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.100 DLA	<0.250 DLA	0.098	<0.050	0.118
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		53.2	76.6	26.3	4.34	14.9
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00459	0.00248	0.00175	0.00337	0.00317
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.000144	0.000970	0.000162	0.000135	0.000408
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		12.4	6.65	10.6	7.59	8.09
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000020 DLA	<0.000050 DLA	0.000011	0.000031	0.000062
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		66.9	991	122	18.1	45.8
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		4.93	3.57	2.24	0.447	1.78
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		537	996	272	83.1	331
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		0.00058	<0.00100 DLA	0.00031	<0.00020	<0.00040 DLA

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-001	GLG-2024-00004-002	GLG-2024-00004-003	GLG-2024-00004-004	GLG-2024-00004-005
					Client sampling date / time	12-Sep-2024 13:00	12-Sep-2024 13:30	12-Sep-2024 12:15	12-Sep-2024 11:35	12-Sep-2024 12:45
						YL2401501-001	YL2401501-002	YL2401501-003	YL2401501-004	YL2401501-005
						Result	Result	Result	Result	Result
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000020 DLA	<0.000050 DLA	<0.000010	<0.000010	<0.000020 DLA
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00020 DLA	<0.00050 DLA	0.00011	<0.00010	<0.00020 DLA
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00020 DLA	<0.00050 DLA	0.00013	<0.00010	0.00344
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00060 DLA	<0.00150 DLA	<0.00240 DLM	<0.00030	<0.00330 DLM
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		0.00126	<0.00050 DLA	0.00050	<0.00010	<0.00020 DLA
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.00105	0.0100	0.0133	0.00112	0.0131
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00100 DLA	<0.00250 DLA	0.00166	<0.00050	<0.00100 DLA
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0523	5.08	<0.0030	0.0043	<0.0060 DLA
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00040 DLA	<0.00100 DLA	0.00341	0.00023	<0.00040 DLA
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		454	401	330	143	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		129	93.4	93.8	19.7	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		50.4	73.3	25.3	4.45	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		61.2	925	118	20.5	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	----
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		3.06	<0.50	<0.50	<0.50	----
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Toluene	108-88-3	E611A/CG	0.50	µg/L		2.23	<0.50	<0.50	<0.50	----
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		0.77	<0.50	<0.50	<0.50	----
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		0.77	<0.75	<0.75	<0.75	----
BTEX, total	----	E611A/CG	1.2	µg/L		6.1	<1.2	<1.2	<1.2	----
Volatile Organic Compounds [Fuels]										
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/CG	0.50	µg/L		----	----	----	----	<0.50
Styrene	100-42-5	E611A/CG	0.50	µg/L		----	----	----	----	<0.50
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	<100	----
F1-BTEX	----	EC580/CG	100	µg/L		<100	<100	<100	<100	----
F2 (C10-C16)	----	E601/CG	100	µg/L		110	<100	<100	170	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00004-001	GLG-2024-00004-002	GLG-2024-00004-003	GLG-2024-00004-004	GLG-2024-00004-005
					Client sampling date / time	12-Sep-2024 13:00	12-Sep-2024 13:30	12-Sep-2024 12:15	12-Sep-2024 11:35	12-Sep-2024 12:45
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401501-001	YL2401501-002	YL2401501-003	YL2401501-004	YL2401501-005
						Result	Result	Result	Result	Result
Hydrocarbons										
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	<250	<250	<250	----
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	<250	<250	<250	----
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	<400	<400	<400	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		86.2	85.4	86.0	86.4	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		108	97.4	96.4	108	107
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		87.7	86.5	83.5	83.4	84.2
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		95.3	96.8	95.4	94.7	96.0

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	GLG-2024-0000 4-006	GLG-2024-0000 4-010	GLG-2024-0000 4-011	GLG-2024-0000 4-012	GLG-2024-0000 4-013
				Client sampling date / time	12-Sep-2024 10:35	12-Sep-2024 10:30	12-Sep-2024 11:00	12-Sep-2024 11:45	12-Sep-2024 12:50
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401501-006	YL2401501-007	YL2401501-008	YL2401501-009	YL2401501-010
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	167	41.5	42.0	42.3	41.5
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	2.8	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	1.4	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	170	41.5	42.0	42.3	41.5
Conductivity	----	E100/VA	2.0	µS/cm	578	105	101	103	100
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	287	42.8	44.1	45.5	43.3
pH	----	E108/VA	0.10	pH units	8.31	7.80	7.84	7.86	7.86
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	401	66.8	69.2	68.5	63.5
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	306	43.4	43.1	44.4	44.5
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0064	<0.0050	<0.0050	0.0066	<0.0050
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	0.88	1.40	1.39	1.42	1.40
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	4.74	<0.0050	<0.0050	<0.0050	<0.0050
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L	21.0	<0.022	<0.022	<0.022	<0.022
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	4.74	<0.0051	<0.0051	<0.0051	<0.0051
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0029	<0.0010	<0.0010	<0.0010	<0.0010
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L	0.0095	<0.0033	<0.0033	<0.0033	<0.0033
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L	0.0132	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0228	0.0043	0.0053	0.0053	0.0047
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	122	7.84	7.67	8.11	7.59
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	2.94	2.82	2.82	3.00	2.95
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0086	0.0106	0.0112	0.0131	0.0145

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-006	GLG-2024-00004-010	GLG-2024-00004-011	GLG-2024-00004-012	GLG-2024-00004-013
					Client sampling date / time	12-Sep-2024 10:35	12-Sep-2024 10:30	12-Sep-2024 11:00	12-Sep-2024 11:45	12-Sep-2024 12:50
						YL2401501-006	YL2401501-007	YL2401501-008	YL2401501-009	YL2401501-010
						Result	Result	Result	Result	Result
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		0.00534	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00462	0.00034	0.00035	0.00031	0.00038
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0243	0.00446	0.00432	0.00438	0.00445
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.0000199	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		98.6	12.2	12.5	12.8	12.0
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.00021	<0.00010	<0.00010	<0.00010	<0.00010
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00126	0.00054	0.00053	0.00054	0.00056
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.025	<0.010	<0.010	0.014	0.013
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0019	0.0021	0.0021	0.0022	0.0022
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		9.93	2.99	3.14	3.28	3.24
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.0121	0.00229	0.00303	0.00464	0.00302
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.00705	0.000096	0.000091	0.000103	0.000088
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.00254	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.62	1.45	1.47	1.47	1.50
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00132	0.00202	0.00222	0.00210	0.00218
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.00194	<0.000050	<0.000050	<0.000050	<0.000050
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		5.00	0.15	0.16	0.16	0.17
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		3.89	2.39	2.48	2.46	2.42
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.341	0.0480	0.0451	0.0476	0.0461
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		41.3	2.58	2.41	2.77	2.54
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-006	GLG-2024-00004-010	GLG-2024-00004-011	GLG-2024-00004-012	GLG-2024-00004-013
					Client sampling date / time	12-Sep-2024 10:35	12-Sep-2024 10:30	12-Sep-2024 11:00	12-Sep-2024 11:45	12-Sep-2024 12:50
						YL2401501-006	YL2401501-007	YL2401501-008	YL2401501-009	YL2401501-010
						Result	Result	Result	Result	Result
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00030	<0.00030	0.00039	0.00041	0.00045
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.00289	0.000108	0.000108	0.000111	0.000104
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		106	12.5	12.4	12.8	12.8
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		9.97	2.96	2.94	3.02	3.05
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		1.58	1.46	1.44	1.46	1.48
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		3.50	2.32	2.32	2.43	2.45
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	108-88-3	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L		<0.75	<0.75	<0.75	<0.75	<0.75
BTEX, total	----	E611A/CG	1.2	µg/L		<1.2	<1.2	<1.2	<1.2	<1.2
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L		<100	<100	<100	<100	<100
F1-BTEX	----	EC580/CG	100	µg/L		<100	<100	<100	<100	<100
F2 (C10-C16)	----	E601/CG	100	µg/L		<100	<100	<100	<100	<100
F3 (C16-C34)	----	E601/CG	250	µg/L		<250	<250	<250	<250	<250
F4 (C34-C50)	----	E601/CG	250	µg/L		<250	<250	<250	<250	<250
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L		<400	<400	<400	<400	<400

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GLG-2024-00004-006	GLG-2024-00004-010	GLG-2024-00004-011	GLG-2024-00004-012	GLG-2024-00004-013
					Client sampling date / time	12-Sep-2024 10:35	12-Sep-2024 10:30	12-Sep-2024 11:00	12-Sep-2024 11:45	12-Sep-2024 12:50
						YL2401501-006	YL2401501-007	YL2401501-008	YL2401501-009	YL2401501-010
						Result	Result	Result	Result	Result
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		84.4	89.8	89.8	85.3	88.4
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		107	108	114	115	113
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		78.4	81.3	86.3	81.3	83.7
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		94.0	96.0	97.5	95.5	94.8

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	GLG-2024-00004-019	----	----	----	----
				Client sampling date / time	12-Sep-2024 10:35	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401501-011	--------	--------	--------	--------
					Result	----	----	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	169	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	4.0	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	2.0	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	173	----	----	----	----
Conductivity	----	E100/VA	2.0	µS/cm	564	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	298	----	----	----	----
pH	----	E108/VA	0.10	pH units	8.35	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	416	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	289	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0054	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	0.88	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	4.74	----	----	----	----
Nitrate (as NO3)	14797-55-8	EC235.NO3A/VA	0.010	mg/L	21.0	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	4.74	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0022	----	----	----	----
Nitrite (as NO2)	14797-65-0	EC235.NO2A/VA	0.0030	mg/L	0.0072	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/VA	0.0010	mg/L	0.0134	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0225	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	118	----	----	----	----
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	2.84	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0097	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00004-019	----	----	----	----
					Client sampling date / time	12-Sep-2024 10:35	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401501-011	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		0.00534	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00455	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0245	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		<0.010	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.0000196	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		103	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.00024	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00131	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.028	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000053	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0020	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		10.0	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.0131	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.00695	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.00260	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		0.051	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.62	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00122	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.00202	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		5.29	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		3.84	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.341	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		43.1	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00004-019	----	----	----	----
					Client sampling date / time	12-Sep-2024 10:35	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401501-011	--------	--------	--------	--------	
					Result	----	----	----	----	
Total Metals										
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	----	----	----	----	
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----	
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----	
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	----	----	----	----	
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----	
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00293	----	----	----	----	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----	
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	----	----	----	----	
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	----	----	----	----	
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	99.7	----	----	----	----	
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	9.80	----	----	----	----	
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	1.56	----	----	----	----	
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	3.47	----	----	----	----	
Dissolved metals filtration location	----	EP421/VA	-	-	Field	----	----	----	----	
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/CG	0.50	µg/L	<0.50	----	----	----	----	
Ethylbenzene	100-41-4	E611A/CG	0.50	µg/L	<0.50	----	----	----	----	
Toluene	108-88-3	E611A/CG	0.50	µg/L	<0.50	----	----	----	----	
Xylene, m+p-	179601-23-1	E611A/CG	0.50	µg/L	<0.50	----	----	----	----	
Xylene, o-	95-47-6	E611A/CG	0.50	µg/L	<0.50	----	----	----	----	
Xylenes, total	1330-20-7	E611A/CG	0.75	µg/L	<0.75	----	----	----	----	
BTEX, total	----	E611A/CG	1.2	µg/L	<1.2	----	----	----	----	
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/CG	100	µg/L	<100	----	----	----	----	
F1-BTEX	----	EC580/CG	100	µg/L	<100	----	----	----	----	
F2 (C10-C16)	----	E601/CG	100	µg/L	<100	----	----	----	----	
F3 (C16-C34)	----	E601/CG	250	µg/L	<250	----	----	----	----	
F4 (C34-C50)	----	E601/CG	250	µg/L	<250	----	----	----	----	
Hydrocarbons, total (C6-C50)	n/a	EC581/CG	400	µg/L	<400	----	----	----	----	

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	GLG-2024-00004-019	----	----	----	----
					Client sampling date / time	12-Sep-2024 10:35	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401501-011	--------	--------	--------	--------
						Result	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	1.0	%		87.9	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	1.0	%		116	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/CG	1.0	%		87.9	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/CG	1.0	%		95.0	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401501**	Page	: 1 of 31
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 13-Sep-2024 09:54
PO	: 123515016.400.200	Issue Date	: 23-Sep-2024 12:48
C-O-C number	: ----		
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 11		
No. of samples analysed	: 11		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / **Container / Client Sample ID(s)**	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-005	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-006	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-010	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-011	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-012	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-013	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-019	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-001	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-002	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-003	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GLG-2024-00004-004	E298	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-001	E235.Cl	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-002	E235.Cl	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-003	E235.Cl	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-004	E235.Cl	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-006	E235.Cl	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-010	E235.Cl	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-011	E235.Cl	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-012	E235.Cl	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-013	E235.Cl	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GLG-2024-00004-019	E235.Cl	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00004-001	E378-U	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	18-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00004-002	E378-U	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	18-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00004-003	E378-U	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	18-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GLG-2024-00004-004	E378-U	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	18-Sep-2024	3 days	6 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00004-006	E378-U	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	18-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00004-010	E378-U	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	18-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00004-011	E378-U	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	18-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00004-012	E378-U	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	18-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00004-013	E378-U	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	18-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE										
GLG-2024-00004-019	E378-U	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	18-Sep-2024	3 days	6 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-001	E235.NO3-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-002	E235.NO3-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-003	E235.NO3-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-004	E235.NO3-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-006	E235.NO3-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-010	E235.NO3-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-011	E235.NO3-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-012	E235.NO3-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-013	E235.NO3-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-019	E235.NO3-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-001	E235.NO2-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
GLG-2024-00004-002	E235.NO2-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-003	E235.NO2-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-004	E235.NO2-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-006	E235.NO2-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-010	E235.NO2-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-011	E235.NO2-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-012	E235.NO2-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-013	E235.NO2-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GLG-2024-00004-019	E235.NO2-L	12-Sep-2024	17-Sep-2024	3 days	5 days	× EHT	17-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-001	E235.SO4	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-002	E235.SO4	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-003	E235.SO4	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-004	E235.SO4	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-006	E235.SO4	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-010	E235.SO4	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-011	E235.SO4	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-012	E235.SO4	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-013	E235.SO4	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GLG-2024-00004-019	E235.SO4	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-001	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-002	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-005	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-013	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-003	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-004	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-006	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-010	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-011	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-012	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GLG-2024-00004-019	E372-U	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GLG-2024-00004-001	E421	12-Sep-2024	20-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GLG-2024-00004-002	E421	12-Sep-2024	20-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GLG-2024-00004-003	E421	12-Sep-2024	20-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GLG-2024-00004-004	E421	12-Sep-2024	20-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GLG-2024-00004-006	E421	12-Sep-2024	20-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GLG-2024-00004-010	E421	12-Sep-2024	20-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GLG-2024-00004-011	E421	12-Sep-2024	20-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GLG-2024-00004-012	E421	12-Sep-2024	20-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GLG-2024-00004-013	E421	12-Sep-2024	20-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GLG-2024-00004-019	E421	12-Sep-2024	20-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	11 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-001	E581.F1	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-002	E581.F1	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-003	E581.F1	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-004	E581.F1	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-006	E581.F1	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-010	E581.F1	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-011	E581.F1	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-012	E581.F1	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-013	E581.F1	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) GLG-2024-00004-019	E581.F1	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00004-001	E601	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	20-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00004-002	E601	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	20-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00004-003	E601	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	20-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00004-004	E601	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	20-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) GLG-2024-00004-006	E601	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	20-Sep-2024	40 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00004-010	E601	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	20-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00004-011	E601	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	20-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00004-012	E601	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	20-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00004-013	E601	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	20-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
GLG-2024-00004-019	E601	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	20-Sep-2024	40 days	1 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-001	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-002	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-003	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
GLG-2024-00004-004	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00004-005	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00004-006	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00004-010	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00004-011	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00004-012	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00004-013	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GLG-2024-00004-019	E355-L	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	17-Sep-2024	28 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00004-001	E290	12-Sep-2024	17-Sep-2024	14 days	5 days	✓	18-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00004-002	E290	12-Sep-2024	17-Sep-2024	14 days	5 days	✓	18-Sep-2024	14 days	6 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00004-003	E290	12-Sep-2024	17-Sep-2024	14 days	5 days	✓	18-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00004-004	E290	12-Sep-2024	17-Sep-2024	14 days	5 days	✓	18-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00004-006	E290	12-Sep-2024	17-Sep-2024	14 days	5 days	✓	18-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00004-010	E290	12-Sep-2024	17-Sep-2024	14 days	5 days	✓	18-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00004-011	E290	12-Sep-2024	17-Sep-2024	14 days	5 days	✓	19-Sep-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00004-012	E290	12-Sep-2024	17-Sep-2024	14 days	5 days	✓	19-Sep-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00004-013	E290	12-Sep-2024	17-Sep-2024	14 days	5 days	✓	19-Sep-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GLG-2024-00004-019	E290	12-Sep-2024	17-Sep-2024	14 days	5 days	✓	19-Sep-2024	14 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-001	E100	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-002	E100	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-003	E100	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-004	E100	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-006	E100	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-010	E100	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-011	E100	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-012	E100	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-013	E100	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE GLG-2024-00004-019	E100	12-Sep-2024	17-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-002	E108	12-Sep-2024	17-Sep-2024	0.25 hrs	125 hrs	× EHTR-FM	18-Sep-2024	0.25 hrs	143 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-001	E108	12-Sep-2024	17-Sep-2024	0.25 hrs	126 hrs	× EHTR-FM	18-Sep-2024	0.25 hrs	143 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-003	E108	12-Sep-2024	17-Sep-2024	0.25 hrs	127 hrs	× EHTR-FM	18-Sep-2024	0.25 hrs	144 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-004	E108	12-Sep-2024	17-Sep-2024	0.25 hrs	127 hrs	× EHTR-FM	18-Sep-2024	0.25 hrs	145 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-006	E108	12-Sep-2024	17-Sep-2024	0.25 hrs	128 hrs	× EHTR-FM	18-Sep-2024	0.25 hrs	146 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-010	E108	12-Sep-2024	17-Sep-2024	0.25 hrs	128 hrs	× EHTR-FM	18-Sep-2024	0.25 hrs	146 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-013	E108	12-Sep-2024	17-Sep-2024	0.25 hrs	128 hrs	× EHTR-FM	19-Sep-2024	0.25 hrs	165 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-012	E108	12-Sep-2024	17-Sep-2024	0.25 hrs	129 hrs	× EHTR-FM	19-Sep-2024	0.25 hrs	166 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-011	E108	12-Sep-2024	17-Sep-2024	0.25 hrs	129 hrs	× EHTR-FM	19-Sep-2024	0.25 hrs	167 hrs	× EHTR-FM

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE GLG-2024-00004-019	E108	12-Sep-2024	17-Sep-2024	0.25 hrs	130 hrs	× EHTR-FM	19-Sep-2024	0.25 hrs	167 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-001	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-002	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-003	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-004	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-006	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-010	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-011	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GLG-2024-00004-012	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
GLG-2024-00004-013	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
GLG-2024-00004-019	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00004-001	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00004-002	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00004-003	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00004-004	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00004-006	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00004-010	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00004-011	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00004-012	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00004-013	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
GLG-2024-00004-019	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00004-001	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00004-002	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00004-003	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00004-004	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00004-005	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
GLG-2024-00004-006	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-010	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-011	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-012	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-013	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GLG-2024-00004-019	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-001	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-002	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-003	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-004	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-005	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-012	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-013	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-006	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-010	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-011	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) GLG-2024-00004-019	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	9 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-001	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-002	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-003	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-004	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-005	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-006	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-010	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-011	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-012	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-013	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) GLG-2024-00004-019	E611A	12-Sep-2024	19-Sep-2024	14 days	7 days	✓	19-Sep-2024	14 days	7 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1656903	2	29	6.9	5.0	✓
Ammonia by Fluorescence	E298	1656950	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1661791	1	16	6.2	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1661790	1	16	6.2	5.0	✓
Chloride in Water by IC	E235.Cl	1656906	2	33	6.0	5.0	✓
Conductivity in Water	E100	1656904	2	33	6.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1657898	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1656911	2	16	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1656908	2	33	6.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1656909	2	33	6.0	5.0	✓
pH by Meter	E108	1656902	2	39	5.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1656910	2	39	5.1	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1659714	2	25	8.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	2	28	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1657833	2	20	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1656951	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1656953	1	18	5.5	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1656903	2	29	6.9	5.0	✓
Ammonia by Fluorescence	E298	1656950	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1661791	1	16	6.2	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1661790	1	16	6.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1661778	1	10	10.0	5.0	✓
Chloride in Water by IC	E235.Cl	1656906	2	33	6.0	5.0	✓
Conductivity in Water	E100	1656904	2	33	6.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1657898	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1656911	2	16	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1656908	2	33	6.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1656909	2	33	6.0	5.0	✓
pH by Meter	E108	1656902	2	39	5.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1656910	2	39	5.1	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1659714	2	25	8.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	2	28	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1657833	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1656951	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1656953	1	18	5.5	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
TSS by Gravimetry (Low Level)	E160-L	1659716	2	25	8.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1656903	2	29	6.9	5.0	✓
Ammonia by Fluorescence	E298	1656950	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1661791	1	16	6.2	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1661790	1	16	6.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1661778	1	10	10.0	5.0	✓
Chloride in Water by IC	E235.Cl	1656906	2	33	6.0	5.0	✓
Conductivity in Water	E100	1656904	2	33	6.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1657898	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1656911	2	16	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1656908	2	33	6.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1656909	2	33	6.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1656910	2	39	5.1	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1659714	2	25	8.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	2	28	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1657833	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1656951	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1656953	1	18	5.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1659716	2	25	8.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1656950	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1661791	1	16	6.2	5.0	✓
Chloride in Water by IC	E235.Cl	1656906	2	33	6.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1657898	1	19	5.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1656911	2	16	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1656908	2	33	6.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1656909	2	33	6.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1656910	2	39	5.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	2	28	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1657833	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1656951	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1656953	1	18	5.5	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry (Low Level)	E160-L ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Vancouver	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Calgary	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Vancouver	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Nitrite (as N) converted to Nitrite (as NO2)	EC235.NO2A ALS Environmental - Vancouver	Water	Calculation	Nitrite by IC measured as N is converted to the NO2 form by calculation.
Nitrate (as N) converted to Nitrate (as NO3)	EC235.NO3A ALS Environmental - Vancouver	Water	Calculation	Nitrate by IC measured as N is converted to the NO3 form by calculation.
F1-BTEX	EC580 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Sum F1 to F4 (C6-C50)	EC581 ALS Environmental - Calgary	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Calgary	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Calgary	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **YL2401501**	Page	: 1 of 17
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Natalie Normandeau	Account Manager	: Oliver Gregg
Address	: 4910 53 Street Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: Gordon Lake - Phase 1 LTMP - Water	Date Samples Received	: 13-Sep-2024 09:54
PO	: 123515016.400.200	Date Analysis Commenced	: 17-Sep-2024
C-O-C number	: ----	Issue Date	: 23-Sep-2024 12:47
Sampler	: ----		
Site	:		
Quote number	: YL24-STAC100-0003 Gordon Lake - Phase I LTMP		
No. of samples received	: 11		
No. of samples analysed	: 11		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
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General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1656902)											
VA24C4258-001	Anonymous	pH	----	E108	0.10	pH units	7.47	7.54	0.933%	4%	----
Physical Tests (QC Lot: 1656903)											
VA24C4258-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	27.1	27.2	0.368%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	27.1	27.2	0.368%	20%	----
Physical Tests (QC Lot: 1656904)											
VA24C4258-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	179	178	0.447%	10%	----
Physical Tests (QC Lot: 1656938)											
VA24C4314-003	Anonymous	pH	----	E108	0.10	pH units	8.13	8.14	0.123%	4%	----
Physical Tests (QC Lot: 1656939)											
VA24C4314-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	263	259	1.53%	10%	----
Physical Tests (QC Lot: 1656940)											
VA24C4314-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	76.9	77.4	0.648%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	76.9	77.4	0.648%	20%	----
Physical Tests (QC Lot: 1659714)											
YL2401475-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	586	581	0.942%	20%	----
Physical Tests (QC Lot: 1659715)											
YL2401501-007	GLG-2024-00004-010	Solids, total dissolved [TDS]	----	E162-L	10.0	mg/L	66.8	70.8	4.0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1656906)											
VA24C4258-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1656908)											
VA24C4258-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1656909)											
VA24C4258-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1656910)											
VA24C4258-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	55.3	55.2	0.161%	20%	----
Anions and Nutrients (QC Lot: 1656911)											
YL2401501-001	GLG-2024-00004-001	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1656941)											
VA24C4313-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	101	101	0.0394%	20%	----
Anions and Nutrients (QC Lot: 1656943)											
VA24C4313-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	2.95	2.93	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1656945)											
VA24C4313-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1656946)											
VA24C4313-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1656947)											
VA24C4314-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1656950)											
FJ2402775-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.100	mg/L	1.51	1.52	0.759%	20%	----
Anions and Nutrients (QC Lot: 1656953)											
YL2401501-001	GLG-2024-00004-001	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0140	0.0129	0.0011	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1656951)											
YL2401501-001	GLG-2024-00004-001	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	2.97	3.14	0.17	Diff <2x LOR	----
Total Metals (QC Lot: 1657833)											
YL2401478-001	Anonymous	Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00026	0.00026	0.000005	Diff <2x LOR	----
YL2401478-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	1.67	1.78	6.14%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.0679	0.0695	2.38%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.0654	0.0681	3.94%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0873	0.0905	3.54%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.168	0.151	10.7%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000753	0.0000812	7.53%	20%	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	212	204	3.87%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000172	0.000182	5.99%	20%	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.0103	0.0111	7.33%	20%	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00456	0.00467	2.47%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.0151	0.0160	5.96%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1657833) - continued											
YL2401478-001	Anonymous	Iron, total	7439-89-6	E420	0.010	mg/L	2.98	3.06	2.63%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.00895	0.00910	1.67%	20%	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0200	0.0192	4.00%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	53.6	55.7	3.84%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.108	0.113	4.74%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00771	0.00811	4.99%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00834	0.00867	3.88%	20%	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.080	0.076	0.004	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	6.54	6.86	4.78%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00582	0.00622	6.77%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000217	0.000233	0.000015	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	3.27	3.32	1.50%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000039	0.000039	0.0000003	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	94.9	99.7	4.88%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	1.86	2.03	8.87%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	203	202	0.920%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00022	0.00022	0.000004	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000017	0.000016	0.0000009	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	0.00025	0.00026	0.000008	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.0800	0.0842	5.06%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00350	0.00356	1.74%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00708	0.00733	3.38%	20%	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0121	0.0129	0.0008	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	0.00055	0.00060	0.00005	Diff <2x LOR	----
Total Metals (QC Lot: 1662439)											
YL2401456-011	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1662440)											
YL2401501-004	GLG-2024-00004-004	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1657898)											
YL2401478-001	Anonymous	Calcium, dissolved	7440-70-2	E421	0.050	mg/L	204	199	2.83%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	54.1	53.9	0.496%	20%	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	6.46	6.54	1.18%	20%	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	93.6	92.2	1.50%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1661791)											
CG2413613-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.00040 mg/L	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.00030 mg/L	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1661790)											
CG2413613-001	Anonymous	F1 (C6-C10)	----	E581.F1	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1656903)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1656904)						
Conductivity	----	E100	1	µS/cm	1.2	----
Physical Tests (QCLot: 1656939)						
Conductivity	----	E100	1	µS/cm	1.2	----
Physical Tests (QCLot: 1656940)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1659714)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1659715)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1659716)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1659717)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1656906)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1656908)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1656909)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1656910)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1656911)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1656911) - continued						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1656941)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1656943)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1656945)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1656946)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1656947)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1656950)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1656953)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1656951)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1657833)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1657833) - continued						
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 1662439)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1662440)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1657898)						
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Volatile Organic Compounds (QCLot: 1661791)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1661791) - continued						
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1661778)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1661790)						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1656902)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1656903)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	91.7	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1656904)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	103	90.0	110	----
Physical Tests (QCLot: 1656938)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1656939)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	99.1	90.0	110	----
Physical Tests (QCLot: 1656940)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	107	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1659714)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	111	85.0	115	----
Physical Tests (QCLot: 1659715)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	112	85.0	115	----
Physical Tests (QCLot: 1659716)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	97.2	85.0	115	----
Physical Tests (QCLot: 1659717)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	92.5	85.0	115	----
Anions and Nutrients (QCLot: 1656906)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1656908)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.7	90.0	110	----
Anions and Nutrients (QCLot: 1656909)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1656910)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1656911)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	98.7	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1656941)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1656943)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.2	90.0	110	----
Anions and Nutrients (QCLot: 1656945)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.4	90.0	110	----
Anions and Nutrients (QCLot: 1656946)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1656947)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	100.0	80.0	120	----
Anions and Nutrients (QCLot: 1656950)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.2	85.0	115	----
Anions and Nutrients (QCLot: 1656953)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	97.3	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1656951)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	96.4	80.0	120	----
Total Metals (QCLot: 1657833)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	108	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	109	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	110	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	102	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	106	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	103	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	106	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	107	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	95.9	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	107	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	116	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	108	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike: Target Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Total Metals (QCLot: 1657833) - continued									
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	102	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	106	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	100	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	114	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	95.0	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	106	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	104	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	99.7	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	107	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	105	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	104	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	102	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	104	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	107	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	106	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	106	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	101	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Total Metals (QCLot: 1662439)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	98.4	80.0	120	----
Total Metals (QCLot: 1662440)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	96.5	80.0	120	----
Dissolved Metals (QCLot: 1657898)									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	96.6	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	97.6	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	97.0	80.0	120	----
Volatile Organic Compounds (QCLot: 1661791)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	99.4	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	103	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	106	70.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike: Target Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Volatile Organic Compounds (QCLot: 1661791) - continued									
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	111	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	102	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	105	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	115	70.0	130	----
Hydrocarbons (QCLot: 1661778)									
F2 (C10-C16)	----	E601	100	µg/L	3830 µg/L	80.5	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7950 µg/L	89.9	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	4220 µg/L	89.8	70.0	130	----
Hydrocarbons (QCLot: 1661790)									
F1 (C6-C10)	----	E581.F1	100	µg/L	2480 µg/L	86.6	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1656906)										
VA24C4258-002	Anonymous	Chloride	16887-00-6	E235.Cl	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1656908)										
VA24C4258-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.51 mg/L	2.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1656909)										
VA24C4258-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.509 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1656910)										
VA24C4258-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1656911)										
YL2401501-002	GLG-2024-00004-002	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0359 mg/L	0.03 mg/L	120	70.0	130	----
Anions and Nutrients (QCLot: 1656941)										
VA24C4313-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1656943)										
VA24C4313-002	Anonymous	Chloride	16887-00-6	E235.Cl	96.0 mg/L	100 mg/L	96.0	75.0	125	----
Anions and Nutrients (QCLot: 1656945)										
VA24C4313-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.46 mg/L	2.5 mg/L	98.2	75.0	125	----
Anions and Nutrients (QCLot: 1656946)										
VA24C4313-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.468 mg/L	0.5 mg/L	93.5	75.0	125	----
Anions and Nutrients (QCLot: 1656947)										
VA24C4314-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0370 mg/L	0.03 mg/L	123	70.0	130	----
Anions and Nutrients (QCLot: 1656950)										
FJ2402775-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0904 mg/L	0.1 mg/L	90.4	75.0	125	----
Anions and Nutrients (QCLot: 1656953)										
YL2401501-002	GLG-2024-00004-002	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1656951)										
YL2401501-002	GLG-2024-00004-002	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1657833)										
YL2401478-002	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	ND mg/L	----	ND	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0410 mg/L	0.04 mg/L	102	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1657833) - continued										
YL2401478-002	Anonymous	Bismuth, total	7440-69-9	E420	0.00898 mg/L	0.01 mg/L	89.8	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00382 mg/L	0.004 mg/L	95.6	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00960 mg/L	0.01 mg/L	96.0	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0390 mg/L	0.04 mg/L	97.6	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0182 mg/L	0.02 mg/L	90.9	70.0	130	----
		Copper, total	7440-50-8	E420	ND mg/L	----	ND	70.0	130	----
		Iron, total	7439-89-6	E420	1.84 mg/L	2 mg/L	92.1	70.0	130	----
		Lead, total	7439-92-1	E420	0.0185 mg/L	0.02 mg/L	92.5	70.0	130	----
		Lithium, total	7439-93-2	E420	0.105 mg/L	0.1 mg/L	105	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0198 mg/L	0.02 mg/L	99.1	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0359 mg/L	0.04 mg/L	89.7	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.77 mg/L	10 mg/L	97.7	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0191 mg/L	0.02 mg/L	95.6	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0426 mg/L	0.04 mg/L	107	70.0	130	----
		Silicon, total	7440-21-3	E420	10.1 mg/L	10 mg/L	101	70.0	130	----
		Silver, total	7440-22-4	E420	0.00382 mg/L	0.004 mg/L	95.6	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0415 mg/L	0.04 mg/L	104	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00369 mg/L	0.004 mg/L	92.2	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0197 mg/L	0.02 mg/L	98.6	70.0	130	----
		Tin, total	7440-31-5	E420	0.0195 mg/L	0.02 mg/L	97.5	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0402 mg/L	0.04 mg/L	100	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00392 mg/L	0.004 mg/L	98.0	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0993 mg/L	0.1 mg/L	99.3	70.0	130	----
		Zinc, total	7440-66-6	E420	0.360 mg/L	0.4 mg/L	90.0	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0382 mg/L	0.04 mg/L	95.4	70.0	130	----
Total Metals (QCLot: 1662439)										
YL2401475-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000924 mg/L	0 mg/L	92.4	70.0	130	----
Total Metals (QCLot: 1662440)										
YL2401501-005	GLG-2024-00004-005	Mercury, total	7439-97-6	E508	0.0000924 mg/L	0 mg/L	92.4	70.0	130	----
Dissolved Metals (QCLot: 1657898)										
YL2401478-002	Anonymous	Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1661791)										
CG2413613-001	Anonymous	Benzene	71-43-2	E611A	97.0 µg/L	100 µg/L	97.0	70.0	130	----
		Ethylbenzene	100-41-4	E611A	95.8 µg/L	100 µg/L	95.8	70.0	130	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	107 µg/L	100 µg/L	107	70.0	130	----
		Styrene	100-42-5	E611A	111 µg/L	100 µg/L	111	70.0	130	----
		Toluene	108-88-3	E611A	97.5 µg/L	100 µg/L	97.5	70.0	130	----
		Xylene, m+p-	179601-23-1	E611A	204 µg/L	200 µg/L	102	70.0	130	----
		Xylene, o-	95-47-6	E611A	112 µg/L	100 µg/L	112	70.0	130	----

Chain of Custody (COC) / Analytical Request Form

COC Number: 22 -

Page 1 of 1

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Report To	Contact and company name below will appear on the final report
Company:	Stantec Consulting Ltd.
Contact:	Natalie Normandeau
Phone:	204 509-9864
	Company address below will appear on the final report
Street:	4910 53 Street
City/Province:	Yellowknife/NT
Postal Code:	X1A 2P4
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Stantec Consulting Ltd.
Contact:	Natalie Normandeau

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)

Merge QC/QC! Reports with COA ☑ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: natalie.normandeau@stantec.com

Email 2: steve.hannington@stantec.com

Email 3: ryan.weber@stantec.com

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: SAPinvoices@stantec.com

Email 2:

Turnaround Time (TAT) Requested

☒ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.

Date and Time Required for all E&P TATs: ~~dd-mmm-yy hh:mm am/pm~~

For all tests with rush TATs requested, please contact your AM to confirm availability.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information

ALS Client Code / QUOTE #:	YL24-STAC100-0003
Job / Project #:	Gordon Lake - Phase I LTMP - Water
PO / AFE:	123515016.400.200
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#:
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (ALS use only):

ALS Contact:

Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below.

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	GroundWater Package	Surface Water Package SNP	Surface Water Package West Bay 1	Surface Water Package West Bay 2	Water QC	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	GLG-2024-00004-001	12-Sep-24	13:00	surface water	10	R							
	GLG-2024-00004-002	12-Sep-24	13:30	surface water	10	R							
	GLG-2024-00004-003	12-Sep-24	12:15	surface water	10	R							
	GLG-2024-00004-004	12-Sep-24	11:35	surface water	10	R							
	GLG-2024-00004-005	12-Sep-24	12:45	surface water	3	R							
	GLG-2024-00004-006	12-Sep-24	10:35	surface water	10	R							
	GLG-2024-00004-010	12-Sep-24	10:30	surface water	10		R						
	GLG-2024-00004-011	12-Sep-24	11:00	surface water	10		R						
	GLG-2024-00004-012	12-Sep-24	11:45	surface water	10		R						
	GLG-2024-00004-013	12-Sep-24	12:50	surface water	10		R						
	GLG-2024-00004-019	12-Sep-24	10:35	surface water	10	R							

Environmental Division
Yellowknife
Work Order Reference
YL2401501

Telephone : +1 867 873 5593

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System?
☐ YES ☑ NO

Are samples for human consumption/ use?
☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
7.8			9	10	

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Magda Celejewski	13-Sep-24	8:00

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
	Sept 13/24	9:54

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
JC	14-9-24	2pm

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

MAY 2023 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Appendix G 2024 Camlaren Tailings and Soil Containment Area Annual Geotechnical Inspection Report

2024 Camlaren Tailings and Soil Containment Area Annual Geotechnical Inspection Report

Gordon Lake Group of Sites

Prepared for:

Public Services and Procurement Canada

Prepared by:

K'alo-Stantec Limited

December 4, 2024

Project No.: 123515016

K'alo-Stantec

2024 CAMLAREN TAILINGS AND SOIL CONTAINMENT AREA ANNUAL GEOTECHNICAL INSPECTION REPORT

This document entitled 2024 Camlaren Tailings and Soil Containment Area Annual Geotechnical Inspection Report was prepared by K'alo-Stantec ("K'alo-Stantec") for the account of Public Services and Procurement Canada (PSPC) (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects K'alo-Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and the contract between K'alo-Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not consider any subsequent changes. In preparing the document, K'alo-Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that K'alo-Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by:

Mahowald, Michael

Digitally signed by Mahowald, Michael
Date: 2024.12.04 14:25:18 -07'00'

(signature)

Michael Mahowald, P.Eng. (AB)
Geological Engineer

Reviewed by:

Steve Bundrock

Digitally signed by Steve Bundrock
Date: 2024.12.04 14:40:08 -07'00'

(signature)

Steve Bundrock, P.Eng.
Senior Principal

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EXECUTIVE SUMMARY

K'alo-Stantec Limited (K'alo-Stantec) provides design, construction, performance monitoring, and regulatory and community engagement support for the Gordon Lakes Group (GLG) of Sites. The project is directed by Public Services and Procurement Canada (PSPC) on behalf of Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). K'alo-Stantec's scope of work includes annual geotechnical inspection and reporting for one historical tailings facility, the Camlaren Tailings and Soil Containment Area (TSCA). Work is carried out as part of the Long-Term Monitoring Plan (LTMP). The LTMP includes a requirement to perform annual geotechnical inspections for the Camlaren TSCA for a five-year period, beginning in 2019.

Visual Inspection – A visual inspection of the Camlaren TSCA and associated facilities was performed by Steve Bundrock and Steffen Karl of Stantec on July 16, 2024.

In general, the facility was observed to be in good condition and no substantial changes have occurred when compared against observations collected during the Year 1 to Year 5 LTM inspections. Some historical deficiencies, such as minor cracking and deformation, appeared to be self-healed in 2024.

Significant Changes in the Areas – There does not appear to be recently constructed human developments or infrastructure near the TSCA facility.

Instrumentation and Monitoring – Instrumentation at the TSCA facility was installed in September 2018 and included two (2) thermistors, two (2) standpipe monitoring wells, and three (3) locations for vibrating wire piezometers with double nested sensor tips. Outside of the perimeter of the facility, four (4) standpipes were installed as part of the TSCA perimeter monitoring related to SNP sampling. Instrumentation results were incorporated in this DSI and can be reviewed in Section 5.0.

Dam Safety Deficiencies and Non-Conformances – There were two priority 3 deficiencies identified during the 2024 DSI. These deficiencies were related to fresh animal burrows and minor surface erosion. The safety deficiencies and non-conformances identified as part of the Year 1 to Year 5 LTM inspections were compiled, reviewed, and updated, and priorities were assigned based on the work completed by others. Historical LTM Reports did not provide a table of deficiencies and/or non-conformances. Instead, deficiencies and non-conformances were identified throughout the text of those reports.

The statements made in this Executive Summary are subject to the project conditions described in the Closure (Section 8.0) and are to be read in conjunction with the remainder of this report.

1.0 INTRODUCTION

The Gordon Lake Group (GLG) Remediation Project was established in 2016 and included the remediation of nine abandoned mine sites located approximately 80 km NW of Yellowknife, Northwest Territories (NT), and included the following sites: 1) Burnt Island, 2) Camlaren, 3) Goodrock, 4) Kidney Pond, 5) Murray Lake, 6) Storm, 7) Treacy, 8) Try Me, and 9) West Bay.

In 2016, Stantec Consulting Ltd. (Stantec) was contracted by Public Services and Procurement Canada (PSPC), on behalf of Crown Indigenous Relations and Northern Affairs Canada (CIRNAC), to provide engineering and technical support, as well as construction contract supervision, acting as Departmental Representative (DR), at the GLG Sites during the project.

Following the completion of remediation activities in 2019, Stantec was contracted by PSPC to implement the Long-Term Monitoring Plan (LTMP) for the remediated facilities. The LTMP included the requirement to perform an annual geotechnical inspection of the engineered TSCA at Camlaren, one of the Gordon Lake Sites. Stantec completed the annual geotechnical inspection in 2019 and 2020, while Englobe completed the annual geotechnical inspection in 2021 and 2022 and AECOM completed the annual geotechnical inspection in 2023. K'alo-Stantec was retained to complete the 2024 annual geotechnical inspection. The results of the 2024 geotechnical inspection are presented in this report.

1.1 PROJECT SCOPE

The scope of the annual geotechnical inspection and the results presented in this report are based on our observation of the Camlaren TSCA, our understanding of the history of the LTM Program for the GLG Sites, and applicable guidelines and regulations. As part of the 2024 annual geotechnical inspection, K'alo-Stantec completed the following tasks:

1. Visually inspected the Camlaren TSCA facility. The observations from the inspection are summarized in Section 3.1.3.
2. Compiled, reviewed, and updated the existing dam safety deficiencies identified in the Year 1 to Year 5 LTM Reports. Historical LTM Reports did not provide a table of deficiencies and/or non-conformances. Instead, deficiencies and non-conformances were identified throughout the body text of those reports.
3. Identified new dam safety deficiencies, if any, and provided recommendations to address those deficiencies.
4. Prepared a report summarizing the results of the annual geotechnical inspection, including a summary of the regulatory review, the existing information review, the visual inspection and identified dam safety deficiencies and recommended actions (this report).

The Canadian Dams Association (CDA) defines dam deficiencies and non-conformances as follows (CDA, 2007):

- "Deficiency - An inadequacy, or uncertainty in the adequacy, of the dam system to meet its performance goals in accordance with good dam safety practices"; and,

- “Non-Conformance - An inadequacy in the non-physical controls (procedures, processes and management systems) necessary to maintain the safety of the dam.”

In accordance with the scope of work for the Project, the 2024 annual geotechnical inspection scope was limited to the identification of dam safety-related physical deficiencies and a compilation, review, and update of the status of deficiencies and non-conformances identified during the DSIs which supported the Year 1 to Year 5 LTM Reports. The identification of non-conformances is typically performed during DSRs. Identification of other items that are not considered dam safety deficiencies or non-conformances, such as maintenance items that are not thought to impact dam safety or occupational health and safety items, were considered to be outside of the scope of this annual geotechnical inspection.

2.0 APPLICABLE GUIDELINES AND REGULATIONS

Tailings dams for closed mine sites in the Northwest Territories are regulated by the Mackenzie Valley Land and Water Board (MVLWB). To facilitate the care and maintenance of closed tailings facilities, MVLWB issued “Guidelines for the Closure and Reclamation of Advanced Exploration and Mine Sites in the Northwest Territories” (2013) (MVLWB Closure Guidelines, 2013). These guidelines recommend that dams and associated structures be designed, constructed, and maintained in accordance with the CDA Dam Safety Guidelines (2007). It should be noted that, following the issuance of the MVLWB Guidelines, the CDA Guidelines were updated in 2013; more recently, a technical bulletin was published by the CDA in 2014 which provided additional clarification regarding the application of the Dam Safety Guidelines to mining dams (CDA, 2014). These guidelines recommend that DSIs are performed on an annual or semi-annual basis depending upon the classification of the structure, that they include a visual examination of the dam and an examination of dam performance instrumentation, and that they be performed by professional engineers. CIRNAC has also advised K’alo-Stantec of their internal Dam Safety Management System and associated data sheets.

3.0 EXISTING INFORMATION REVIEW AND FACILITY DESCRIPTION

A limited amount of background information for the Camlaren TSCA was identified for the 2024 annual geotechnical inspection report. Fundamental existing information for this facility was presented in the 2018 Design Basis Report and the 2018 As-Built Report which includes:

- Stantec Consulting Ltd., September 11, 2018, Updated Report: Gordon Lake Group Design Basis, Submitted to PWGSC and INAC, File No: 121414585 (Stantec, 2018a).
- Stantec Consulting Ltd., December 21, 2018, FINAL – 2018 As-Built Construction – Camlaren TSCA, Part of GLG (Stantec, 2018b). Report prepared for Public Works and Government Services Canada and Indigenous and Northern Affairs Canada.

Aside from those listed above, K'alo-Stantec is not aware of other previous inspections, DSRs, or reviews related to the adequacy of the design and performance of the TSCA, such as geotechnical reviews, stability analyses, or water management analyses prior to 2019.

Based on these reports, engineering and construction details related to the TSCA involved stabilization of mine waste by regrading slopes and installing an engineered cover, as follows:

- Slopes were stabilized by regrading the perimeter dams to a slope of 3.1H:1V to 3.3H:1V.
- An engineered cover was placed over the tailings surface, consisting of a Bituminous Geomembrane (BGM) and an underlying, 0.5 m thick layer of sand for preventing water infiltration.
- Erosion protection was placed on the top of the engineered cover which consisted of willow branch vegetation. Coarse sand with rockfill and coco mats were also placed to provide erosion protection for the slopes of the TSCA.
- Lined surface ditches were constructed at the northwestern and southern perimeters of the TSCA to encourage drainage away from the TSCA and to prevent pooling of runoff against the embankment.
- Instrumentation was installed and a monitoring program was established for assessing the long-term performance of the TSCA.

The TSCA is oval-shaped in plan-view, roughly 200 m (north to south) by 130 m (west to east), and covers an area of approximately 2.5 hectares (ha). The top of the TSCA is dome-shaped and slopes outwards at a grade of approximately 4% to shed surface water runoff towards the perimeter of the facility. The TSCA has three embankments that form a uniform structure (i.e., there are no distinct geomorphological or structural boundaries) referred to as the North, East, and West Embankment. On average, the embankments are roughly 2 to 4 m high but are up to 5 m high at their highest section at the north embankment.

The composite BGM cover was placed over the entire TSCA and embankments. At the embankment toes, the BGM was placed on a prepared bedrock foundation and was covered with a sand/bentonite mixture. In areas of naturally low topography, the BGM liner was not secured to bedrock; instead, rockfill toe drains were constructed to relieve a potential build-up of pore pressures within the TSCA.

Perimeter ditches were constructed at the northwestern perimeter (Northern Ditch, referred to as Ditch 1 on the design drawings) and the southern perimeter (Southern Ditch, referred to as Ditch 2 on the design drawings). The ditches were lined with the BGM liner and were covered with riprap. The BGM liner extended from the side slopes and into the ditch bottom to prevent water infiltration into the TSCA.

3.1 FACILITY DESCRIPTION

3.1.1 Camlaren Tailings and Soil Containment Area

The GLG Sites were active between the late 1930s and 2008 with several companies involved in mining operations. Activities ranged from exploratory drilling to open-pit mining and were generally undertaken independently between the mine sites. Camlaren Mine was a former gold mine located on Muir Island in the southern portion of Gordon Lake. In 1980, a milling plant was erected. Tailings from the mine were deposited in the Camlaren tailings area which operated into the 1980s and was then abandoned.

The TSCA was an engineered mine waste containment facility that encompassed the Camlaren Mine tailings, formerly part of the tailings containment area (TCA), as well as impacted material (soil, tailings, waste rock) and non-hazardous debris (metal, wood, etc.) from the other GLG Sites. Impacted material and non-hazardous waste from the GLG Sites were transported to Camlaren in the winter of 2018, with a majority of material transported from February 4 to March 13, 2018. Some of the waste was transported via helicopter in the summer of 2018. Construction of the TSCA was completed between July and September, 2018. A summary of construction activities for the TSCA facility are provided in the 2018 As-Built Construction Report (Stantec, 2018b).

General characteristics of the TSCA are summarized in Table 3.1.

Table 3.1 TSCA Characteristics

TSCA General Properties	
TSCA Area	2.5 ha
TSCA Peak Elevation	300.54 m
TSCA Top Slope	3 – 4%
Berm Composition	Sand fill dam with BGM composite cover
Composite BGM Cover	BGM liner placed on sand bedding and covered with 0.5 m of sand
Discharge Facilities	Perimeter ditches: Northern Ditch (Ditch 1) and Southern Ditch (Ditch 2)
Design for Extreme	Designed to withstand seismic loads and 1 in 1,000-year

Characteristics of the TSCA dams are presented in table 3.2.

Table 3.2 TSCA Dam Characteristics

Item	**North Dam**	**East Dam**	**South Dam**
Embankment Composition	Sand fill dam with BGM composite cover		
Embankment Purpose	Main tailings containment dam converted into solid mine waste		
Nominal Height (m)	5	4 – 4.5	2
Berm Crest Elevation (m)	297.75	297.5 – 297.75	297.75
Nominal Length (m)	160	160	60
Downstream Slope	3H:1V		
Chainages (m)	0 to 0+160	0+160 to 0+330	0+330 to 0+390

3.1.2 Dam Classification

In 2020, Stantec completed a review of the TSCA structure to determine whether it met the definition of a dam in accordance with the 2013 Canadian Dam Association (CDA) Dam Safety Guidelines and other applicable CDA technical bulletins. Findings were summarized in a report titled, “Camlaren TSCA Embankment Classification Assessment” (Stantec, 2020b).

It was determined that the TSCA embankments should be considered to be dam structures since a breach of the perimeter containment, regardless of the triggering mechanism, would likely trigger a flow of the contents beyond the perimeter containment. Although it was determined that the TSCA embankments should be considered to be dam structures, this study did not include dam classification in terms of dam hazard consequence category in accordance with CDA standards. For the DSI, it was assumed that the hazard potential classification would be low. However, it is recommended that the structure be classified in accordance with CDA hazard classification procedures, outlined in Table 3.3. The hazard classification procedure should include a dam breach assessment and an evaluation of the potential downstream losses in terms of human life, environment, and/or cultural/heritage losses.

Table 3.3 CDA Dam Consequence Classifications

Dam Class	Population at Risk[1]	Incremental Losses		
		Loss of Life[2]	Environmental and Cultural Values	Infrastructure and Economics
Low	None	0	• Minimal short-term loss	Low economic losses
			• No long-term loss	Area contains limited infrastructure or services
Significant	Temporary only	Unspecified	• No significant loss or deterioration of fish or wildlife habitat	Losses to recreational facilities, seasonal workplaces, and infrequently used transportation routes
			• Loss of marginal habitat only	
			• Restoration or compensation in kind highly possible	
High	Permanent	10 or fewer	• Significant loss or deterioration of important fish or wildlife habitat	High economic losses affecting infrastructure, public transportation, and commercial facilities
			• Restoration or compensation in kind highly possible	
Very High	Permanent	100 or fewer	• Significant loss or deterioration of critical fish or wildlife habitat	Very high economic losses affecting important infrastructure or services (e.g. highway, industrial facility, storage facilities for dangerous substances)
			• Restoration or compensation in kind possible but impractical	
Extreme	Permanent	More than 100	• Major loss of critical fish or wildlife habitat	Extreme losses affecting critical infrastructure or services (e.g. hospital, major industrial complex, major storage facilities for dangerous substances)
			• Restoration or compensation in kind impossible	

Note 1. Definition for population at risk:

None - There is no identifiable population at risk, so there is no possibility of loss of life other than through unforeseeable misadventure.

Temporary - People are only temporary in the dam-breach inundation zone (e.g. seasonal cottage use, passing through on transportation routes, participating in recreational activities).

Permanent - The population at risk is ordinarily located in the dam-breach inundation zone (e.g. as permanent resident); three consequence classes (high, very high, extreme) are proposed to allow for more detailed estimate of potential loss life (to assist in decision-making if the appropriate analysis is carried out).

Note 2. Definition for loss of life:

Unspecified - The appropriate level of safety required at a dam where people are temporarily at risk depends on the number of people, the exposure time, the nature of their activity, and other conditions. A higher class could be appropriate, depending on the requirements. However, the design flood requirement, for example, might not be higher if the temporary population is not likely to be present during the flood season.

3.1.3 Operations, Maintenance, and Surveillance

Stantec prepared an Operation, Maintenance, and Surveillance (OMS) Manual for the TSCA in 2019. The OMS was developed under the assumption that the TSCA would be operated similar to a landform structure. The OMS should be updated any time there is a change in the status, classification, condition, or operation of the TSCA (Stantec, 2020c).

The OMS Manual specifies that TSCA surveillance will be carried out through bi-annual inspections by a qualified geotechnical engineer registered in NT. As part of the inspections, instrumentation monitoring shall be performed.

Bi-annual inspections are to be performed for the first five years after capping construction and following extreme weather events. The inspections are to be conducted in a similar manner as a dam safety inspection (DSI), in accordance with CDA guidelines. Bi-annual inspections are to focus on visual observations to detect any deficiencies in the TSCA performance. After satisfactory TSCA performance is documented during the first five years, inspections may be carried out at a lesser frequency, as specified in the OMS Manual.

Trigger levels and potential action plans for response to surveillance observations were presented in the GLG Long-Term Monitoring Plan (Stantec, 2018c) and the OMS Manual (Stantec, 2020c).

Triggers for corrective actions include the following:

- Differential settlement greater than 0.5 m (including instrumentation casings).
- Slopes slumping with horizontal cracking/movement greater than 0.3 m.
- Slopes or cover erosion resulting in a loss of material thickness greater than 0.25%.
- Frost heave effects greater than 0.2 m.
- Vegetation (primarily tree species) growth that may develop roots deeper than 0.3 m.
- Animal activities, such as burrowing, at depths greater than 0.3 m.
- Erosion control coco-matting (full semi-circle, approximate length of 5 m) deemed to be no longer effective.
- Ditch erosion exposes the bituminous geomembrane (BGM) liner (i.e., visible liner).
- Ditch blockage of debris/objects impeding flow or causing ponding.

These scenarios constitute a trigger for follow-up actions, and review and/or modification of the remedial/reclamation approach will be required.

During the development of the OMS Manual and the TSCA Surveillance section, it was also recommended that trigger criteria be established with regard to the piezometric levels. In earlier stages, it

was assumed that the trigger levels should be established at 296.0 m at all piezometers, or as an average value across the TSCA, based on previous slope stability analyses.

4.0 VISUAL INSPECTIONS

Visual inspection of the Camlaren TSCA was completed on July 16, 2024, by Stantec's Steve Bundrock, P.Eng. and Steffen Karl, P.Eng.

The visual inspections were performed on foot and aerially via helicopter. No subsurface investigations, material sampling, or testing was performed. The intent of the inspections was to visually identify dam safety concerns, potential signs of distress in the structures (such as cracking, settlement, slumping, heave, erosion, or significant seepage), and to compare 2024 observations with historical records to evaluate for potential changes related to the condition of the structure.

Field observations at the Camlaren TSCA were recorded on the DSI checklists and in photos provided in Appendix A. Photographs were taken to record key observations and the general conditions of the TSCA. The following subsections summarize key observations made during the inspection of the Camlaren TSCA.

4.1 CAMLAREN TSCA INSPECTION

Observations from the Camlaren TSCA DSI are presented are summarized below.

- In general, the Camlaren TSCA facility was in good condition with no significant signs of slumping, cracking, heave, significant erosion, or other distress.
- The condition of the dam was consistent with that documented in the 2023 DSI (AECOM, 2024), with the exception that a historical, partially healed crack appeared to be fully healed, and a surface crack zone adjacent to a historical depression appeared to be partially healed.
- No known, notable maintenance activities were completed at the Camlaren TSCA facility in 2023 or 2024.
- Toe drains on the north and southeast corner of the facility were dry; no seepage was observed at the time of inspection and it was noted that there was no accumulation of fine material in or downstream of the toe drains.
- Perimeter ditches were clear with no blockages and limited vegetation growth.
- The northern ditch was dry while the southern ditch had standing water in localized sections due to an inconsistent ditch invert.
- The exposed geofabric/liner identified previously at the west ditch appeared to be mostly self-healed with limited visible exposure in 2024.
- A surface depression was observed at the top of the TSCA near the northern perimeter, estimated to be 0.3 m deep and 12 m long (east to west) X 5 m wide (north to south). When compared to visible conditions in photos collected in 2020, surficial cracking adjacent to the depression was partially healed in 2024. Two smaller depressions approximately 0.15 m deep

were observed in the vicinity of the larger surface depression. These depressions were initially observed in 2020 and do not appear to be increasing in size, depth, surficial extent, or number.

- The partially healed cracking identified in the April 5, 2024, Inspection Report (AECOM, 2024) was not observed and is assumed to be fully healed.
- Minor, historical erosion of the crest and slopes was evident in multiple locations. It was noted that material placed with the intent of erosion control, such as trees and coir logs, were re-directing surficial runoff and causing channelized flow and minor erosion. Some of the historical, deeper erosional gullies appeared to be partially healed.
- Erosion protection consisting of coarse sand with cobbles and covered with coco mats in a semi-circular arrangement was noted to be functioning adequately. However, some anchors were removed as a result of strong winds impacting the south and east slopes of the facility.
- Vegetation consisting of grasses and shrubs continued to establish in some areas of the crest and slopes. Compared to historical observations, most of the observed growth occurred on the north, east, and south sides of the facility where willow live staking was completed. It was estimated that a third of the willows that were live staked were showing signs of growth.
- Numerous animal burrows, historical and fresh, were observed at the facility. Many of these animal burrows were observed in the sand to the west of the west perimeter ditch and are not currently impacting the facility; however, the number of burrowing animals onsite may increase if left unmanaged, which could result in burrows at locations with increased impacts. The start of a potential fox den was observed near the east crest of the facility.
- Instrumentation appeared to be in good condition at the time of inspection. Installation details are included in the geotechnical investigation report (Stantec, 2020a) and Section 5.0.

4.2 GROUND SETTLEMENT

During the 2024 inspection, a surface depression up to 0.3 m deep, 12 m long (east to west), and 5 m wide (north to south) was observed at the top of cover of the TSCA near the northern perimeter. Two smaller depressions, roughly 0.15 m deep, were observed near this larger feature and near the location of VB2 in 2024. These features were initially observed in 2019 and there appeared to be no change in the dimension or depth in 2024. Surficial cracking in the vicinity of the ground depressions appeared to be partially healed in 2024.

The depressions could be caused by settlement related to the consolidation of tailings or as a result of ice melt within waste rock, presumed to be placed in 2018. As described in the design basis report (Stantec, 2018a), this type of settlement was anticipated. The identified settlement was not deep enough to prompt the trigger level identified in the OMS Manual.

Areas of settlement should continue to be monitored in bi-annual inspections.

No settlement was observed at perimeter slopes adjacent to the toe drain during the inspection.

4.3 EROSION

Historical erosion was observed at the top of TSCA cover and on perimeter slopes, including the following:

- Historical erosion channels on the northern slope near MW3. These channels were eroded through the coco-matting.
- Historical erosion channels on the northwest slope, generally 130 mm deep. Since the cover thickness in the area is 300 mm, the noted erosion triggered the LTM adaptive management requirements as per Table B-2 of the LTM Plan (i.e., slopes or cover erosion resulting in >25% loss of material thickness) (Stantec, 2018c).
- Multiple historical erosion channels on the western slope, generally 120 mm deep. Since the cover thickness in the area is 200 to 300 mm, the noted erosion triggered the LTM adaptive management requirements as per Table B-2 of the LTM Plan (i.e., slopes or cover erosion resulting in >25% loss of material thickness) (Stantec, 2018c).
- The liner was historically exposed in two locations on the western slope. An area approximately 200 cm by 600 cm was exposed in both cases. The eroded cover in this area was 50 to 100 mm thick. This erosion triggered the LTM adaptive management requirements as per Table B-2 of the LTM Plan (i.e., slopes or cover erosion >25% loss of material thickness) (Stantec, 2018).

In addition, it was noted in 2024 that some of the coco-matting anchors were pulled out of the ground at some locations due to wind, particularly on the south and east slopes of the TSCA facility. Vegetation was observed to be establishing slowly as a result of willow live staking efforts, primarily on the north, east, and south sides of the facility. It was estimated that a third of the willows that were live staked showed signs of growth in 2024.

Observations collected in 2024 indicated that the historical erosion channels noted above appeared to be partially healed and that surficial erosion observed in 2024 was minor.

4.4 COVER THICKNESS INVESTIGATION

In 2020, five shallow test pits were hand-dug with a shovel to investigate the cover thickness at the west and northwest embankment, as summarized in Table 4.1.

Table 4.1 Summary of Test Pits

Test Pit ID	General Location	Test Pit Depth (mm)	Confirmed BGM Liner
TP1	NW, mid-slope	400	Yes
TP2	NW, mid-slope	230	Yes
TP3	W, mid-slope, near	110	Yes
TP4	N, mid-slope	600	No
TP5	W, mid-slope	250	Yes
TP6	W, mid-slope	170 to 220	Yes

Test pit results indicated that the cover material in some areas along the west and northwest slopes did not meet the 0.5 m depth specification. This was previously documented in the As-Built report, and recommendations were made to place additional cover material based on the thickness determined by survey results (Stantec, 2018b).

As described in Section 4.3, historical erosion channels were observed, indicating that erosion has further reduced the thickness of the cover in some areas. Several factors may be contributing to accelerated erosion, including the use of sandy cover materials, steep slopes, and ineffective revegetation efforts. Based on the triggers identified in Section 4.3, it is recommended that additional fill be placed on the west and northwest slopes.

Special erosion control may be required to control erosion in these areas (e.g. geosynthetic solutions). Alternatively, the west slope could be flattened by filling the ditch and moving the existing ditch alignment further to the west\ or converting to a “French drain” type. A preliminary trade-off study may be required to evaluate these options with regard to long-term performance and economic feasibility.

4.5 ANIMAL BURROWS

In 2024, a burrow was observed on the cover surface of the TSCA near the east crest of the facility. In addition, numerous fresh burrows were noted in 2024 in the sand to the west of the west perimeter ditch, located outside of the TSCA footprint. These burrows did not extend deeper than 0.5 m and the BGM liner appeared to be intact. Although these burrows did not trigger the LTM adaptive management as per the LTM Plan, they should be filled in with granular material. Monitoring of animal activity should be performed in subsequent LTM/DSI inspections.

4.6 DITCHES

Perimeter ditches appeared to be performing well with no significant erosion or sediment accumulation noted in 2024. Historical exposure of the liner at the west ditch appeared to be partially healed with limited exposure in 2024. Although partially healed, historical exposure of the BGM liner triggers the LTM adaptive management as per the LTM Plan.

At the time of inspection, there was standing water in localized sections of the southern ditch due to an undulating ditch invert. Similar observations have been made in previous LTM/DSI inspections. It is recommended to continue monitoring the extent at which water pools in the ditches; if the situation worsens, it is recommended to fill the depressions with low permeability soil and to place a piece of BGM liner over the top and to seal it to the underlying BGM around the edges.

5.0 INSTRUMENTATION

Instrumentation at the Camlaren facility was installed in September 2018 and included two (2) thermistors, two (2) standpipe monitoring wells, and three (3) locations for vibrating wire piezometers with double nested sensor tips. Outside of the perimeter of the facility, four (4) standpipes were installed as part of the TSCA perimeter monitoring related to SNP sampling. A summary of the instrumentation is presented in Table 5.1 and locations are depicted on Drawing 1. Installation details for the instrumentation are provided in the OMS Manual (Stantec, 2020c).

Table 5.1 Instrumentation Summary

ID	Type of Installation	Northing	Easting	Ground Surface Elevation (m)	Borehole Depth (m)
MW1	Monitoring Well	6986005	388356	298.73	5.3
MW2	Monitoring Well	6986051	388352	298.96	7.1
MW3*	Monitoring Well	6986073	388393	292.41	7.2
MW4*	Monitoring Well	6985962	388376	294.52	3.8
MW5*	Monitoring Well	6985922	388236	296.58	4.8
MW6*	Monitoring Well	6986066	388238	295.45	5.4
VB1	Vibrating Wire Piezometer	6985957	388335	298.11	6.4
VB2	Vibrating Wire Piezometer	6986026	388381	297.99	6.1
VB3	Vibrating Wire Piezometer	6986079	388353	298.48	7.0
VT1	Thermistor String	6986005	388351	298.89	5.9
VT2	Thermistor String	6986055	388352	298.84	7.0

*Indicates a monitoring well located outside of the TSCA footprint

Data from the thermistors and VWPs were downloaded by K'alo-Stantec personnel on August 20, 2024.

5.1.1 Vibrating Wire Piezometers

Figures 5.1, 5.2, and 5.3 depict the piezometer readings in terms of total head for each VWP at three locations (VB1, VB2, and VB3, respectively) for the period ranging from September 14, 2018, to August 20, 2024. At these three locations, the top piezometer tip measures pore pressures in the tailings while the bottom tip measures pore pressures at the bottom of the borehole, near the contact with bedrock or native ground. Barometric adjustments were not applied to the data due to a lack of barometric readings. In general, the top and bottom piezometers indicated correlating trends throughout this period.

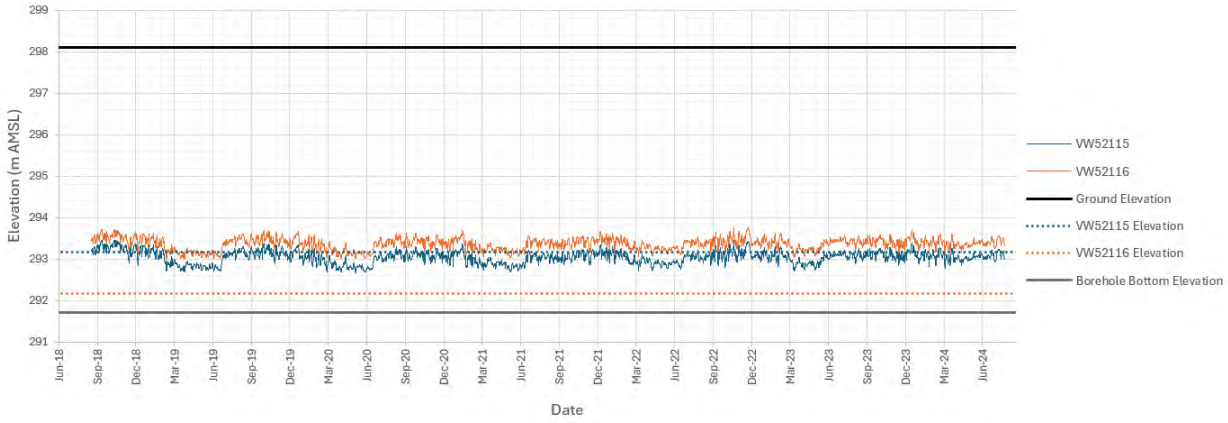

Figure 5.1 Total Head Elevation at Piezometer VB1

Figure 5.2 Total Head Elevation at Piezometer VB2

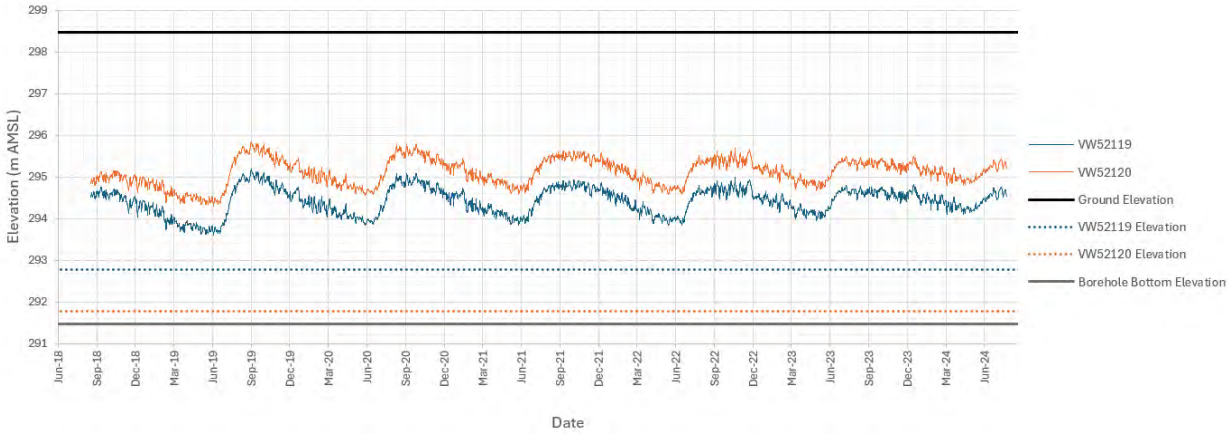

Figure 5.3 Total Head Elevation at Piezometer VB3

A review of the piezometric data for six (6) full seasons indicated that the piezometric levels are cyclic over a 12-month period. Piezometric levels were lowest in the spring or early summer (approximately May to June). During the summer and early fall, piezometric levels began to rise and reach seasonal highs in October or November. From their peak, piezometric levels gradually decreased until May or June, at which point the cycle started over.

When compared to plots presented in the Year 2 to Year 5 LTM Reports, total head values measured in 2024 correlated well with historical readings, though slight differences were observed in the Year 2 to Year 4 plots when compared to the Year 6 plot. Additional context for the suspected cause of this inconsistency can be reviewed in the LTM Year 5 Report (AECOM, 2024).

At VB2, an apparent downward vertical gradient was observed based on the total head difference between the top and bottom piezometer tips. The difference in the total head measured was relatively constant (i.e. two piezometric lines are parallel). Data did not record at VB2's top piezometer tip from September 2020 to July 2024 but has been resolved.

At VB1 and VB3, an apparent upward vertical gradient was observed. Similar to readings collected at VB1, the difference in total head measured by the two piezometers at VB1 and VB3 were relatively consistent. Downward vertical gradients could cause contaminant transport from the TSCA to the underlying groundwater regime.

5.1.2 Thermistors

Figures 5.4 and 5.5 show the monthly average temperature profiles as measured by thermistors from September 2023 to September 2024 for the TSCA mine waste at VT1 and VT2, respectively. Thermistor plots predating September 2023 can be reviewed in the Year 1 to Year 5 LTM Reports.

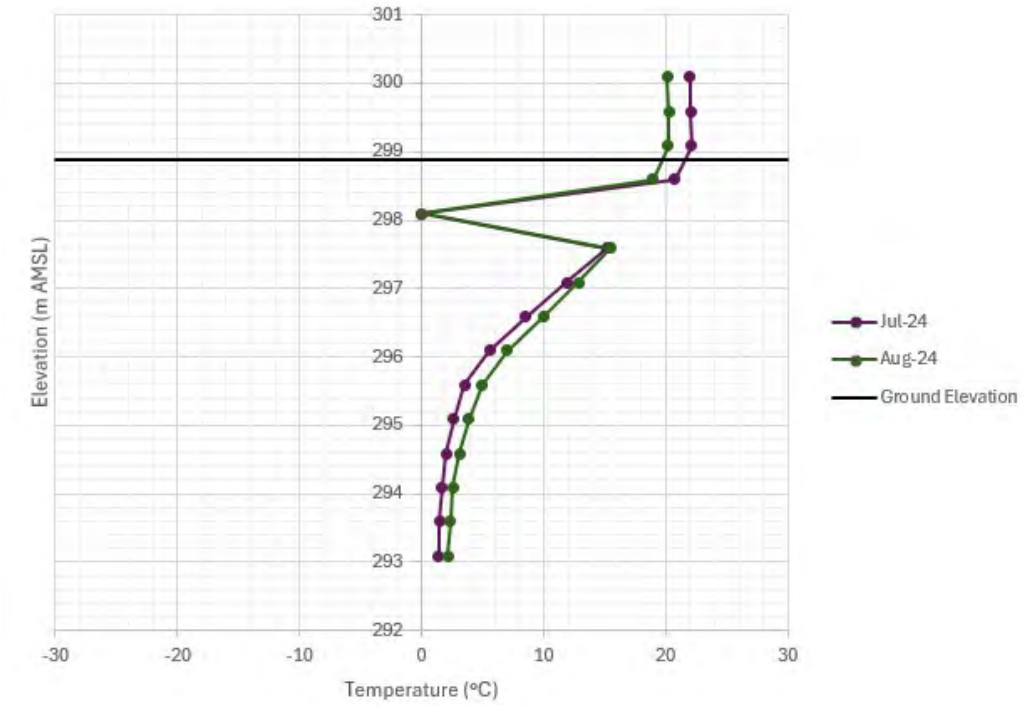

Figure 5.4 VT1 Year 5 to Year 6 Monthly Average Temperature Profiles

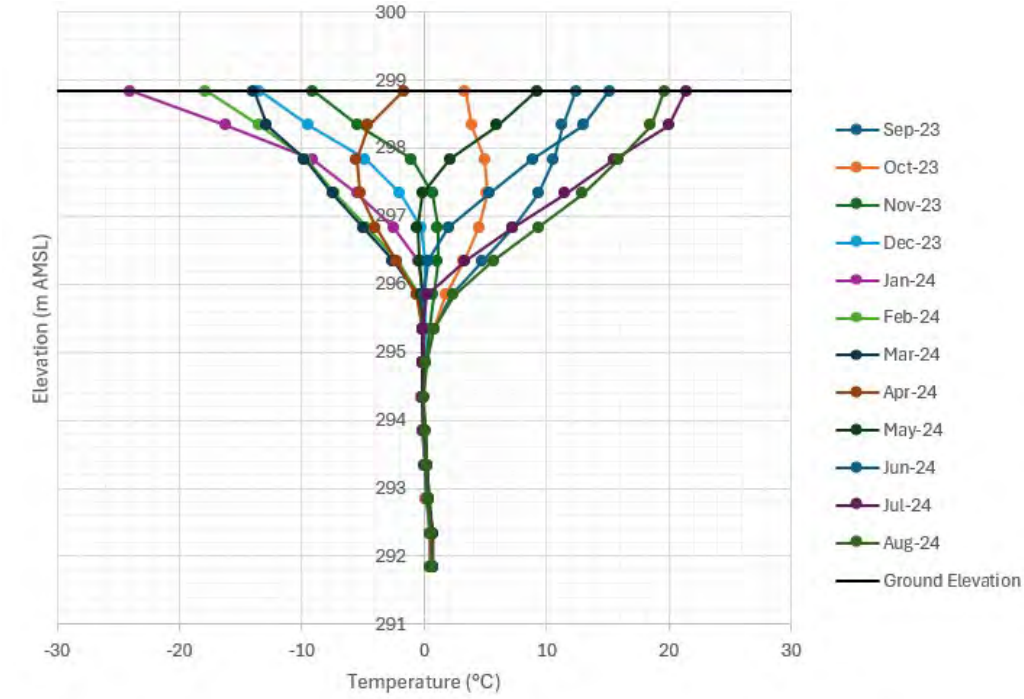

Figure 5.5 VT2 Year 5 to Year 6 Monthly Average Temperature Profiles

Thermistor VT1 had missing data from September 2022 to August 2024. This instrument has since been repaired, though node five appeared to be malfunctioning.

Temperature data downloaded from VT2 indicated a range of temperatures at surface level, ranging from approximately -25°C during the winter months and 22°C during the summer months. At VT1, a similar summer temperature of 22°C was recorded. Since the top node was located at/near ground level, these temperatures correlate closely with ambient air temperatures. Temperatures fluctuated seasonally. At depth, the active permafrost zone appeared to extend to approximately 4 m deep at VT2. At VT1, temperatures remained above 1.4°C, indicating thawed ground throughout the profile. Based on historical data, temperatures remaining above 1.4°C, and comparing these results to VT2, it appears that the data at VT1 is erroneous and requires further assessment.

6.0 DEFICIENCIES, NON-CONFORMANCES, AND RECOMMENDED ACTIONS

This section presents a summary of the dam safety deficiencies, non-conformances, and recommended actions identified for the Camlaren TSCA facility as a part of the 2024 DSI. It also includes a compilation and review of existing dam safety deficiencies identified as part of the Year 1 to Year 5 LTM inspections.

To assist CIRNAC in prioritizing the importance of each deficiency as well as prioritizing actions and resourcing to implement follow-up actions, the deficiencies and non-conformances have been ranked using the three-level priority system presented in Table 6.1. Priorities were assigned based on the work performed by others and have not been categorized previously.

Table 6.1 Dam Safety Deficiencies Priority System

Priority	Description
1.	A dam safety deficiency considered immediately hazardous to life, the environment, or infrastructure and/or significant non-compliance with CDA guidelines.
2.	A dam safety deficiency that could lead to injury or impacts to the environment or infrastructure.
3.	Non-compliance with CDA guidelines that is not anticipated to impact health or the environment but does not comply with best practice.

6.1 NEW DAM SAFETY DEFICIENCIES IDENTIFIED DURING THE 2024 DSI

Two new dam safety deficiencies were identified during the 2024 DSI. These deficiencies included observation of fresh animal burrows and fresh, minor erosion. It is recommended that animal burrows are backfilled with granular material with continued monitoring for animal activity in subsequent DSIs. Minor erosion is recommended to be monitored for worsening conditions with consideration to implement a more permanent solution, such as flattening embankment slopes, providing additional coarse material, or removing material that contributes to channelized flow.

6.2 REVIEW OF EXISTING DAM SAFETY DEFICIENCIES AND NON-CONFORMANCES

Table 6.2 and Table 6.3 presents a summary of the existing dam safety deficiencies and non-conformances, respectively, first identified as part of the Year 1 LTM program (Stantec, 2020e) for the Camlaren TSCA. These tables were compiled based on the first five years of the LTM program reports and priorities were assigned based on the work completed by others. The tables describe the status of each deficiency and updates for each deficiency based on the results of the Year 6, 2024 DSI.

Table 6.2 Existing Dam Safety Deficiencies

No.[1]	LTM Year	Priority Level [2]	Status	Description of Deficiency	Recommended Action and Comment	2024 DSI Comment
DS-1	1 (2019)	3	Completed	Two animal burrows were identified on the south and southeast slope of the TSCA. Animal burrows had a depth of 0.4 m.	Backfill animal burrows and continue to monitor for animal activity.	Animal burrows were backfilled by hand on July 8, 2019.
DS-2	1 (2019)	2	Mostly Completed/Ongoing	Damaged wires related to animal activity were noted at VT1.	Repair wiring to restore functionality of instrument.	Repair was completed by DNV in September 2019. In the Year 2 (2020) inspection, it was noted that the wiring had been reversed and required further attention. Based on the plots generated for 2024, it appeared that additional repairs are required at VT1 since temperatures remained above 1.4°C through permafrost.
DS-3	1 (2019), 2 (2020), 6 (2024)	2	Ongoing	Three depressions, up to 0.3 m deep, were observed at the top of the TSCA cover near the north perimeter.	Continue to monitor these features.	These features were not recorded in Year 2 to Year 5 but were observed in 2024 and appeared to be similar in shape, size, and geometry when compared to 2019 observations.
DS-4	1 (2019)	2	Completed	Cracking observed at the top of the cover near the north perimeter – appeared to be related to the localized depression.	Continue to monitor cracking in subsequent DSIs.	Cracking was presumed to be partially healed based on Camlaren Mine Tailings Soil Containment Area Geotechnical Inspection Report (AECOM, 2024). Partially healed cracks were not noted in Year 6 DSI and are assumed to be fully healed.
DS-5	1 (2019), 2 (2020), 3 (2021), 6 (2024)	2	Ongoing	Erosion noted on the north and northwest slopes of the TSCA facility. Fine material appeared to be washed out, leaving coarse material.	Continue to monitor this erosion and repair if needed.	Minor surface erosion observed in 2024. Some of the historical, deeper erosional gullies appeared to be partially healed. Continue to monitor erosion and consider implementing a more permanent solution, such as flattening embankment slopes, placing coarse material, or removing materials that channel flows.
DS-6	2 (2020)	3	Mostly Completed/Ongoing	Animal burrows were noted on the southwest slope and northeast embankment.	Backfill animal burrows with granular material. Monitor animal activity in subsequent site inspections.	Fresh (and existing) animal burrows were observed in 2024. Continue to monitor animal activity in subsequent site inspections and backfill animal burrows with granular material.

DS-7	2 (2020), 3 (2021)	2	Ongoing	Slow vegetation growth and loose coco-mats was noted.	Refasten coco-mats, consider alternatives for erosion control or vegetation establishment. Coco-mats should be inspected for degradation or displacement on an annual basis, or, until it has been established that embankment erosion has ceased.	Erosion protection consisting of coarse sand with cobbles, covered with coco-matting in a semi-circular arrangement, appeared to be functioning adequately. Some anchors were removed as a result of strong winds impacting the south and east slopes of the facility. Consider repairing coco-matting and adding anchors. Vegetation consisting of grasses and shrubs continued to establish in some areas of the crest and slopes. It was estimated that a third of the willows that were live staked were showing signs of growth.
DS-8	2 (2020)	2	Ongoing	Possible long-term settlement observed.	Resurvey entire covered area if settlement persists.	Continue monitoring and consider establishing an InSAR radar system for remote deformation monitoring.
DS-9	2 (2020)	3	Ongoing	Thermistor wires at VT1 were switched.	Correct VT1 thermistor wiring.	Issues appeared to persist at VT1 – see Section 5.1.2 for additional context. Consider repairing thermistor VT1.
DS-10	2 (2020), 3 (2021)	3	Completed	A blockage was noted at MW1.	Remove the blockage in MW1.	No blockage was present in 2024. Issue resolved.
DS-11	1 (2019), 2 (2020)	3	Ongoing	Undulating invert of the south ditch was observed.	Repair undulating ditch bottom. Fill in depressions.	Continue to monitor ditches for standing water.
DS-12	1 (2019), 2 (2020)	2	Completed	Exposed liner at the west ditch was observed.	Provide additional riprap at the west ditch. Fill in depressions and patch the liner over the filled area.	The exposed liner at the west ditch appeared to be partially healed with limited exposure in 2024. Issue resolved.
DS-13	2 (2020)	3	Completed	Instrumentation was noted to lack protection from potential wildlife interference.	Install wooden boxes with cover over the instrumentation.	Limited wildlife on the island. Instrumentation is functioning well without protection. Issue resolved.
DS-14	2 (2020)	2	Ongoing	Insufficient piezometers were noted at critical areas.	Install additional piezometers in critical areas to assess for slope stability in the north and to better quantify the phreatic surface within the TSCA.	Ongoing – Install additional piezometers as recommended in previous DSIs/LTM Reports.

DS-15	3 (2021)	2	Completed	At the toe of the south embankment, and from Station 0+320 to 0+335, the toe of the slope intersected slightly within the south perimeter ditch resulting in minor undercutting of the embankment.	Remove the over-steepened portion of the existing soil liner material at this location and replace with riprap material similar to the riprap used to line the existing south ditch.	Not observed in 2024.
DS-16	5 (2023)	3	Ongoing	Aluminum debris pile noted to the north of the TSCA.	Monitor this area for observed changes in the Year 6 monitoring program.	The area was not inspected in 2024. Visually inspect the area in 2025 and remove material if present.
DS-17	5 (2023)	2	Ongoing	Thermistor VT1 did not collect data after September 18, 2022.	Inspect this sensor and repair/replace if further monitoring is required.	Issues appeared to persist at VT1 – see Section 5.1.2 for additional context. Consider repairing thermistor VT1.
DS-18	5 (2023)	3	Completed	VB2 data collection was disrupted and data had not collected after September 4, 2020.	Repair or replace during Phase II long-term monitoring.	Issue resolved. Data collection resumed in July 2024.
DS-19	5 (2023)	3	Ongoing	MW2 was blocked.	Inspect the assumed blockage at MW2 with a portable borehole camera in Year 6.	Blockage could not be observed from the surface. Inspect in 2025 and remove the blockage if issue persists.
DS-20	5 (2023)	3	Completed	Data loggers were full or close to full.	Clear old data from data loggers, replace batteries as needed, and re-deploy at appropriate collection intervals.	Data loggers were cleared. Issue resolved.
DS-21	5 (2023)	2	Ongoing	Stained soil was identified at four separate locations. One of these locations exhibited a slight hydrocarbon odour.	Remove stained soil with a shovel, place in five-gallon pails, and remove from site. Collect confirmatory sample at each location to be analyzed for PHCs and BTEX.	Stained soil was not visible in 2024. Continue to observe for stained soil and if identified, collect samples and lab test.

Notes:

(1) Table was compiled based on the findings and recommendations identified by others as part of the Year 1 to Year 5 LTM Reports. Findings and recommendations were not presented in a similar format for the Year 1 to Year 5 LTM Reports.

(2) Existing priority levels were not specified in the previous LTM reports and/or DSIs. Priority levels were assigned in 2024 based on the work completed by others.

Table 6.3 Existing Dam Safety Non-Conformances

No.(1)	LTM Year	Priority Level (2)	Status	Description of Non-Conformance	Recommended Action and Comment	2024 DSI Comment
NC-1	2 (2020)	2	Ongoing	Piezometric trigger levels, instrumentation monitoring	Review piezometric levels plus thermistors bi-annually. More frequent monitoring would provide better interpretation. Establish piezometric trigger levels for the purpose of dam safety and an action plan to mitigate levels if triggers are reached. Update the LTM Plan and OMS Plan accordingly. Automated remote monitoring is also recommended.	Consider implementing recommendations from Year 2 LTM Report.
NC-2	3 (2021)	2	Ongoing		Review as-built drawings completed following 2018 to address minor inconsistencies observed onsite.	Consider implementing recommendations from Year 3 LTM Report.
NC-3	2 (2020), 3 (2021)	2	Ongoing	Dam was not classified in accordance with CDA guidelines.	Classify the dam as per CDA guidelines. Re-evaluate the classification assessment report. Refer to classification report for additional recommendations. Reclassify the current structure from a dam to a mine waste structure. Complete further appropriate review and determination using site-acquired water level monitoring data and additional geotechnical boreholes to determine the strength of the tailings.	Consider implementing recommendations from Year 2 and Year 3 LTM Reports.
NC-4	2 (2020)	3	Ongoing	Quantify the acceptable amount of settlement expected within the first 2-3 years following construction.	Continue bi-annual inspection schedule. The next inspection should be performed after freshet in spring/summer 2021. Special attention should be paid to monitoring settlement of the top cover. Measurements of stick-ups and instrumentation casings should be included in the bi-annual monitoring.	Consider implementing recommendations from Year 2 LTM Report.

Notes:
(1) Table was compiled based on the non-conformances identified by others as part of the Year 1 to Year 5 LTM Reports. Non-conformances were not presented in a similar format for the Year 1 to Year 5 LTM Reports.
(2) Existing priority levels were not specified in the previous LTM reports and/or DSIs. Priority levels were assigned in 2024 based on the work completed by others.

7.0 LIMITATIONS

Professional judgments are presented in this report. These are based partly on the existing information presented in this document, our visual observations during the site visit, and partly on our experience with similar projects. The findings, recommendations, professional opinions, and conclusions that are presented, are within the limits prescribed by available information at the time the assessment discussed in this document was prepared in accordance with generally accepted professional engineering practice. K'alo-Stantec's services were performed with the usual thoroughness and competence of the engineering profession. No other representation, expressed or implied, is included or intended in our proposals, contracts, or reports.

The conclusions in this report are limited in terms of accuracy to the time, scope, and purpose for which the report was prepared and do not necessarily represent the conditions at any other time. Unless expressly stated otherwise, assumptions, data, and information supplied by, or gathered from other sources upon which K'alo-Stantec opinion as set out herein is based, has not been verified by K'alo-Stantec and K'alo-Stantec makes no representation as to its accuracy and disclaims all liability with respect thereto.

This document is meant to be read as a whole, and sections or parts thereof should thus not be read or relied upon out of context. K'alo-Stantec disclaims any liability to any third party in respect of any reliance on this document by any third party without the prior written consent of K'alo-Stantec.

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Drawings

TSCA Summary of Monitoring Components

388100 388150 388200 388250 388300 388350 388400 388450

6986100 6986050 6986000 6985950 6985900 6985850 6985800

CAM_SO_01
Approximate SNP Station 2016-8c
SNP Station 2016-11b1
SNP Station 2016-7d (MW6)
SNP Station 2016-7a (MW3)
VB3
VT2
MW2
TSCA
CAM_SO_04
VB2
CAM_SO_03
CAM_SO_05
CAM_SO_07
VT1
MW1
CAM_SO_06
CAM_SO_09
VB1
SNP Station 2016-7b (MW4)
SNP Station 2016-11b2
SNP Station 2016-7c (MW5)
Approximate SNP Station 2016-8b
SNP Station 2016-11b4
CAM_SO_10
CAM_SO_12
CAM_SO_08
CAM_SO_11
Gordon Lake
1 2 3 4 5 6 7 8 9

N

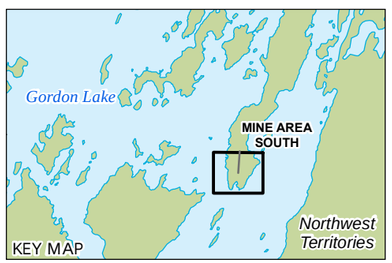
0 10 20 30 40 m
1:1,300

Sources: MapMart Orthomagery (2011), GeoBase, CANVEC

V:\1214\active\121413xxx\121413573 Gordon Lake Assessment\geomatics\mapping\mxd\report\2020_YR2_Long_Term_Monitoring_Plan\121414585_150_Camlaren_2020_Y2LTMP.mxd mhuskinsthupe

Stantec

Legend
- Approximate Discharge Location
- Surface Water Sample Location
- Groundwater Sample Location
- TSCA Monitoring Well
- TSCA Thermistor
- TSCA Vibrating Wire Piezometer
- Backfilled Remedial Excavation
- Remedial Excavation
- Tailings and Soil Containment Area (TSCA)
- Excavated Waste Rock
- Trail
- Waterbody
- Aerial Viewpoint
- Viewpoint



NAD 1983 UTM Zone 12N

October 2020
121414585

Client/Project
Public Services and Procurement Canada
Phase I Long-Term Monitoring Year 2 Report

Figure No.
Drawing 1

Title
Camlaren - Mine Area South Summary of Long-Term Monitoring Components

APPENDIX A

TSCA Dam Safety Inspection Checklist

Stantec

Gordon Lake Group of Sites
File – 123514963

July 31, 2024
Camlaren TSCA

2024 TSCA Safety Inspection Checklist

Inspection Details				
TSCA Safety Inspector(s)	Steve Bundrock, P.Eng., Steffen Karl, P.Eng.			
Inspection Timing	Date	16 July 2024	Time	11:00AM
Weather (precip/temp/sun)	Partly Cloudy, 20-26°C			
Weather preceding Inspection	Partly Cloudy, 20-26°C			
Previous Dam Safety Inspection	Date	29 September 2023 (by Others)	HPC (CDA)	Assumed to be low
Next Dam Safety Inspection	Scheduled for 2025.			

Basic Information			
TSCA Purpose	Final storage for mine waste collected from the Gordon Lake Group of Sites and contained in this engineered facility – Tailings and Soil Containment Area (TSCA).		
Owner	CIRNAC		
Catchment Area	TSCA area only, 2.5 ha	Nominal Berms Height	5 m
Pond Area	N/A	Nominal Length	200 m
Berm Crest Elevation	297.5 m	Nominal Width	150 m
TSCA Peak Elevation	300.6 m	Berms Slopes	3:1
Water level during visit	N/A	TSCA Slope	4%1
Berm Composition	Sand fill dam with BGM composite cover.		
Composite BGM Cover	BGM liner placed on sand bedding and covered with 0.5 to 0.6 m of sand cover.		
Discharge Facilities	Perimeter ditches, northern and southern.		

Berm Crests	
Cracking	None observed. The partially healed cracking identified in the April 5, 2024, Camlaren Mine Tailings Soil Containment Area Geotechnical Inspection report (AECOM 2024), was not encountered during the 2024 review and is assumed to be fully healed.
Deviation of Alignment	None.
Narrowing of crest width	None.
Sinkholes / Potholes / Rutting	Past minor surface erosion of crest and slope evident in multiple locations, in some cases where water is channeled by the trees and coir logs placed for erosion control. All evidence of past erosion is minor with no significant erosion concerns identified anywhere on structure.
Low Areas	None.
Vegetation	Vegetation consisting of grasses and shrubs growing in some areas of crest and slope of the berm. The majority of this growth is on the north, east, and south sides where willow live-staking was completed. Only some of the willows survived with less than a third of willow plants showing growth.

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Animal burrows	One start of a partial den (potentially fox) was observed on the surface of the TSCA near the east crest. Burrow was not dug deeper than approximately 0.5 m.

TSCA Top Surface	
Erosion Protection	Sand cover and willow branches to control erosion and promote vegetation.
Depressions, sinkholes	A surface depression was observed approximately 0.3 m deep at the TSCA top near the northern perimeter. The size is approximately 12 m E-W and 5 m N-S. 10 m W of MW#2. The surface crack zone consisting of several cracks adjacent to the depression area was partially healed. This depression was not noted in AECOM 2024 but looks similar to that identified in the 2020 site review. Recommendations: backfill the depression zone with granular material up to surround level. Two (2) small depressions (new) near VB#2, approximately 0.15 m.
Excess vegetation	None.
Animal burrows	One start of a partial den (potentially fox) was observed on the surface of the TSCA near the east crest. Burrow was not dug deeper than 0.5 m.
Rubbish/Driftwood	None.

Downstream Slopes (all around TSCA)	
Erosion Protection (quality, evidence of erosion)	Coarse sand with cobble size stones covered with coco mats placed in semi-circles to mitigate potential erosion. Willow live-staking was performed to encourage vegetation of slope. Evidence of minor surface erosion observed , however, no severe erosion concerns identified anywhere. Previous deeper erosion channels appear to be partially healed. Coco matting wind-blown with anchors pulled out at some locations, especially south and east slope.
Uniform Slope/Evidence of Slides	Slopes smooth and regular. No evidence of slides.
Vegetation (hydrophilic, excessive)	Some willow and grasses growing sporadically.
Animal burrows	None observed on slopes.

Downstream Toes	
Toe Submerged	No.
Soft Toe	No.
Boils or concentrated seeps	None.
Seepage areas (seepage clear?)	No seepage observed in the downstream of toe drain.
Staining	No.
Vegetation (hydrophilic, excessive)	No.

Perimeter Ditches

Stantec

Gordon Lake Group of Sites
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2024 TSCA Safety Inspection Checklist

Control Mechanism	None.
Flow During Inspection	Inactive.
Material	Rockfill riprap.
Seepage into ditches	None.
Cracks	None observed. Exposed geofabric/liner previously identified appeared to be mostly self healed with limited to no current exposure.
Erosion / Spalling	None.
Staining	None.
Blockages	Standing water in the South Ditch, due to uneven bottom.
Energy Dissipation	No issue observed.
Animal Borrows	A number of animal borrows (potentially fox) were observed in the sand to the west of the west perimeter ditch. No impact to the ditch or toe.

Monitoring and Instrumentation
Monitoring wells and instrumentation including vibrating wire piezometers and thermistors installed throughout the site. Active monitoring occurring during site visit but some software communication issues encountered.

Other	
Wildlife (beavers, etc)	None.
Public Access	None.
Additional Notes	Review of instrumentation data is recommended in light of the long-term performance.

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Gordon Lake Group of Sites
File – 123514963

July 31, 2024
Camlaren TSCA

2024 TSCA Safety Inspection Checklist

Photo 1: Camlaren TSCA from the air.

2024 TSCA Safety Inspection Checklist

Photo 2: Camlaren TSCA from the air.

2024 TSCA Safety Inspection Checklist

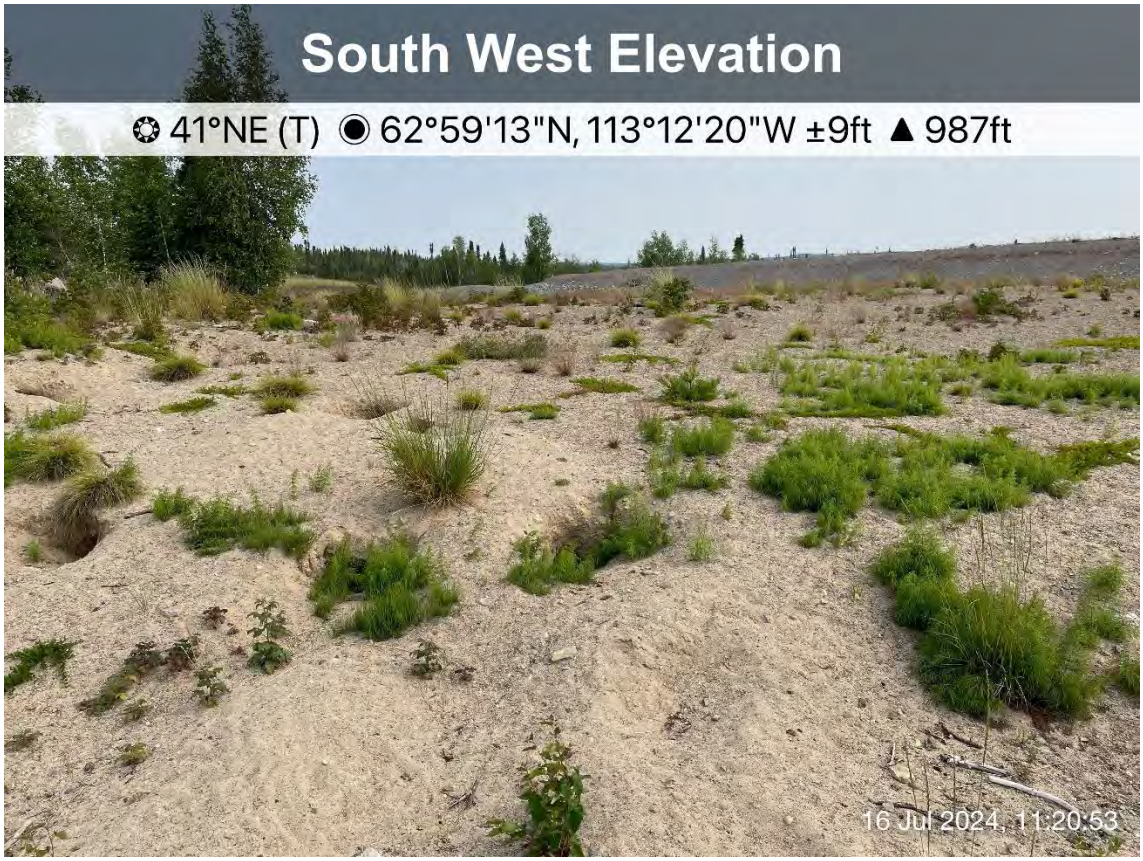

Photo 3: Animal borrows to the west of west drainage ditch.

2024 TSCA Safety Inspection Checklist

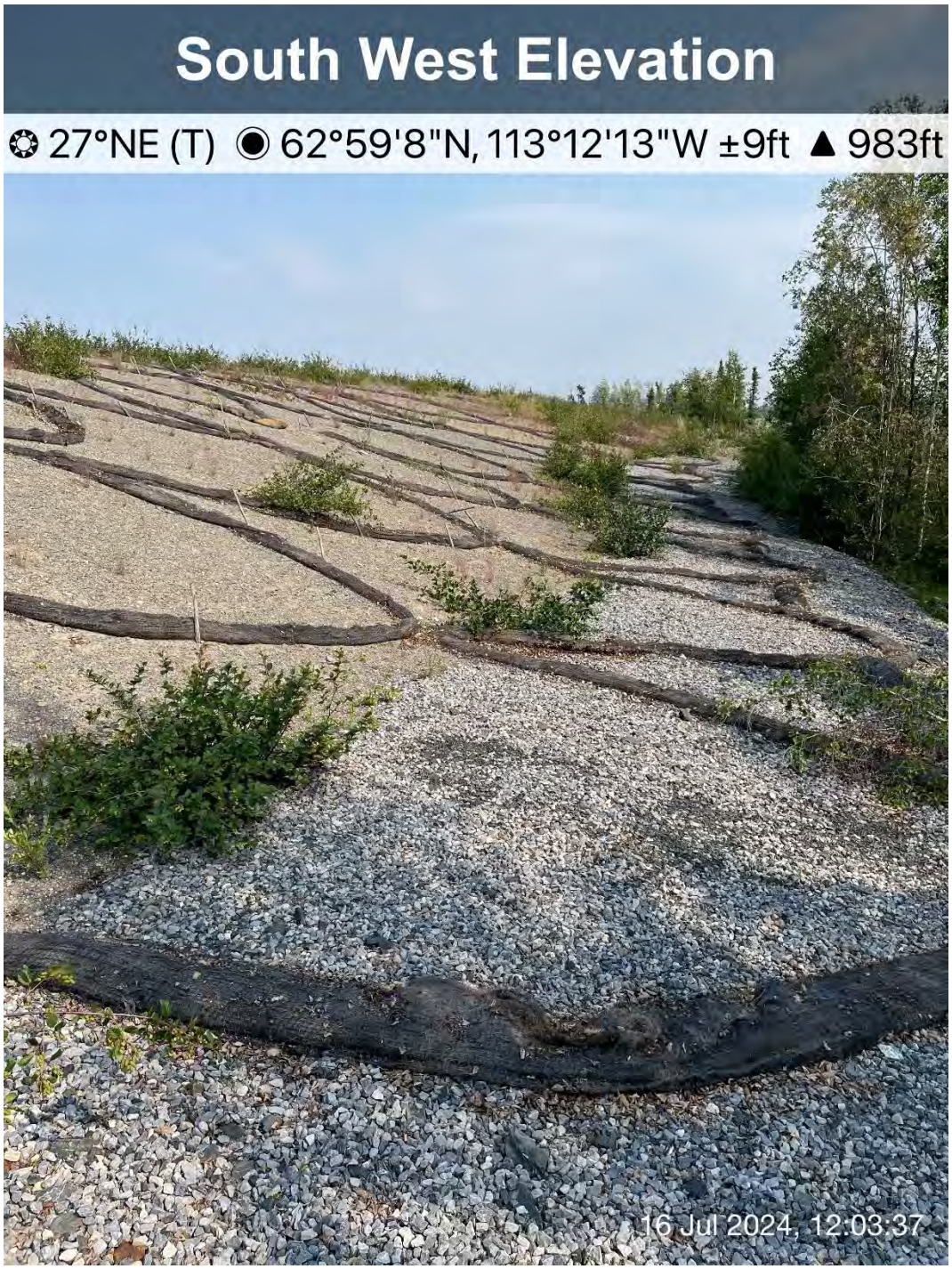

Photo 4: East slope – Sporadic willows growing.

2024 TSCA Safety Inspection Checklist

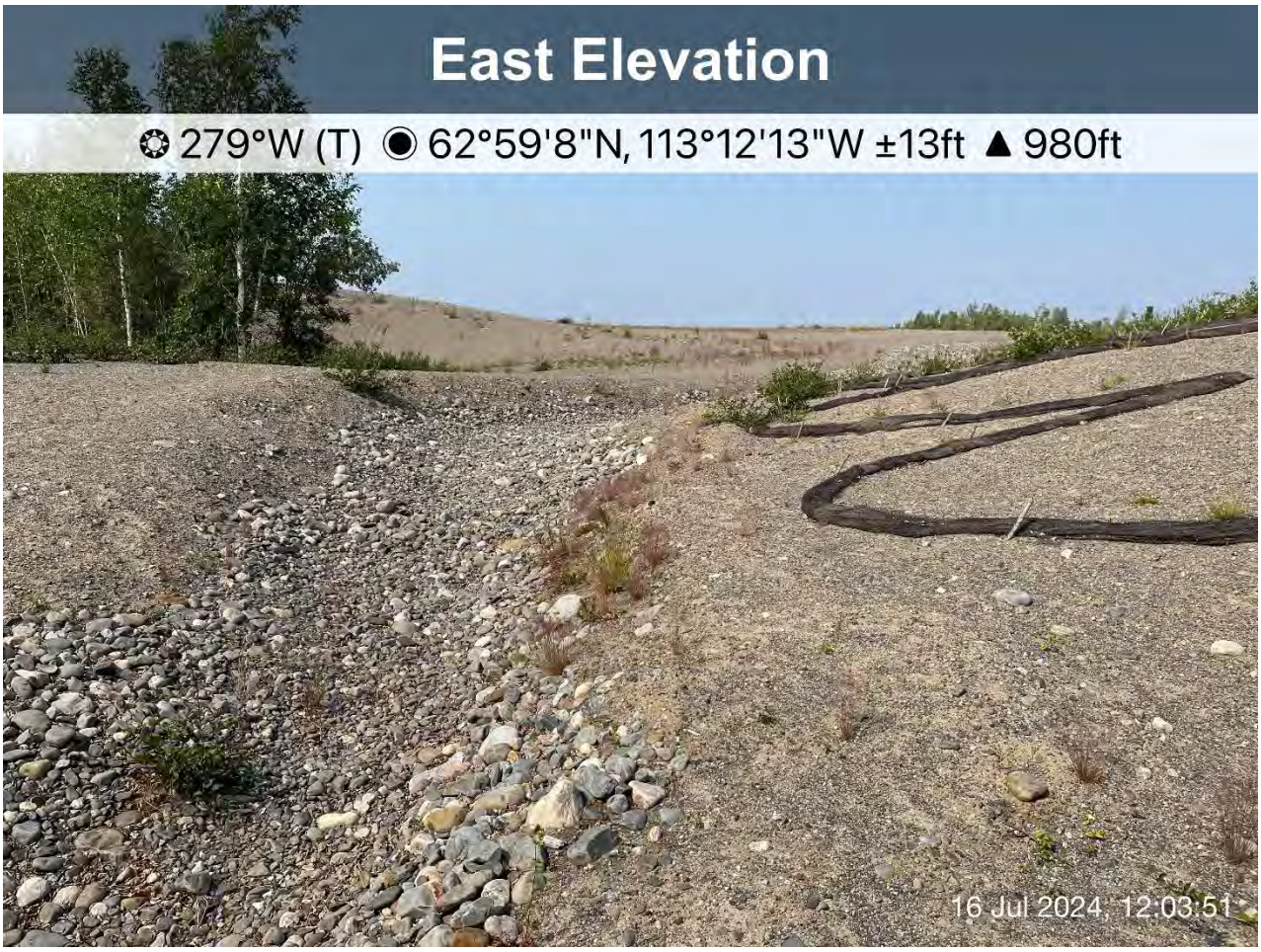

Photo 5: Southeast perimeter ditch.

2024 TSCA Safety Inspection Checklist

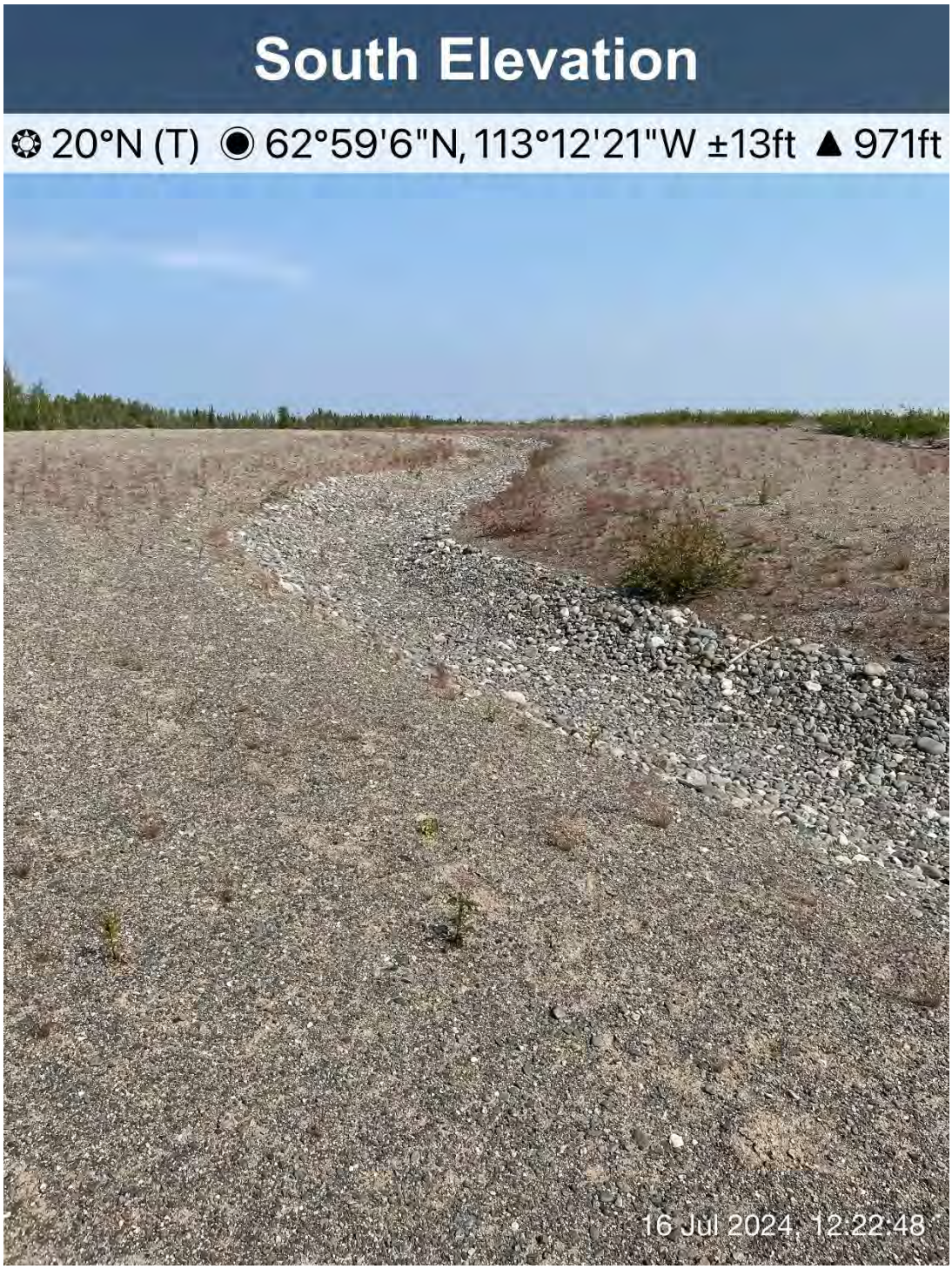

Photo 6: Southwest perimeter ditch and slope.

2024 TSCA Safety Inspection Checklist

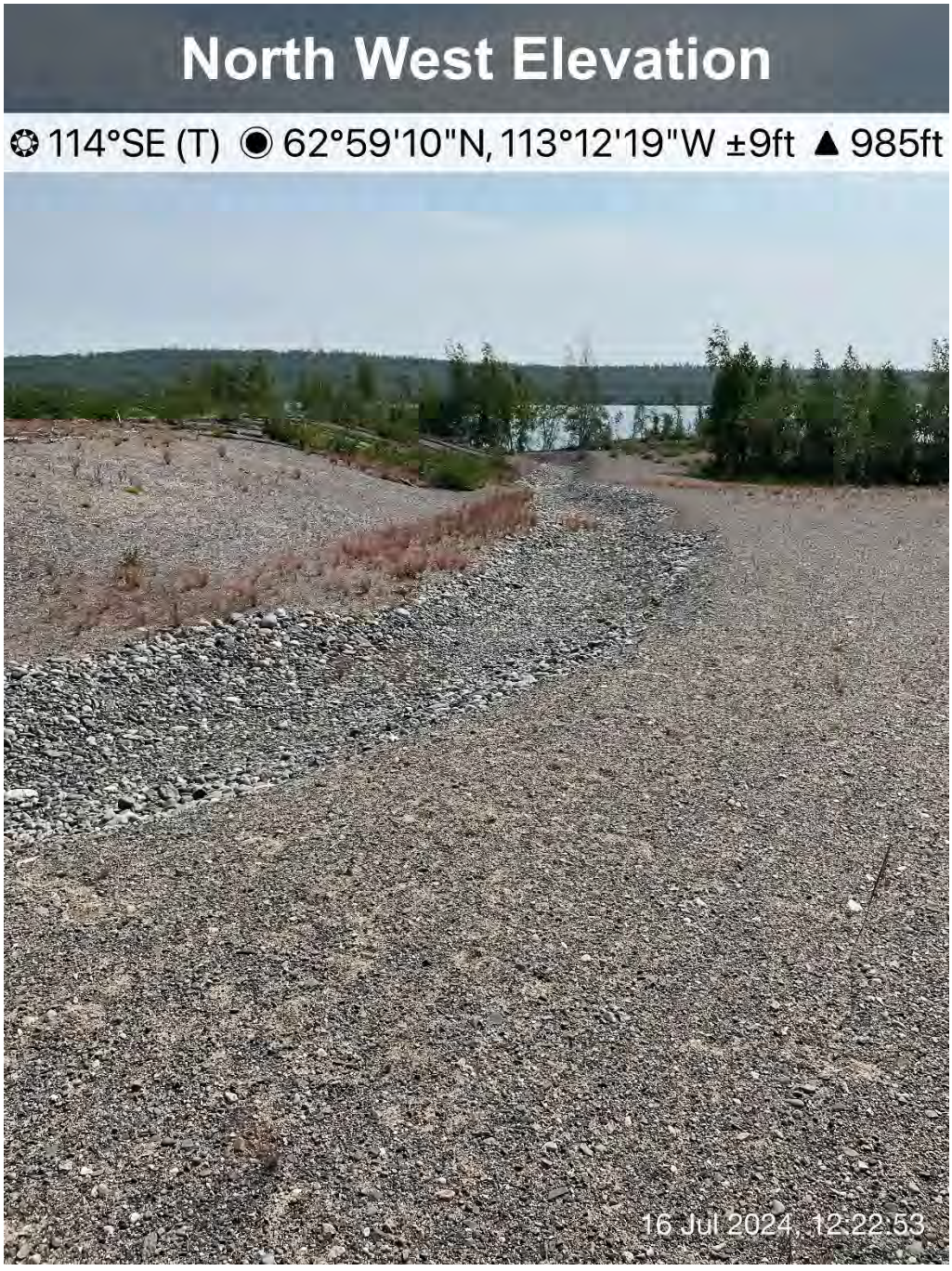

Photo 7: South perimeter ditch and slope.

2024 TSCA Safety Inspection Checklist

Photo 8: TSCA north slope with partially healed erosion channels – looking toward perimeter ditch.

2024 TSCA Safety Inspection Checklist

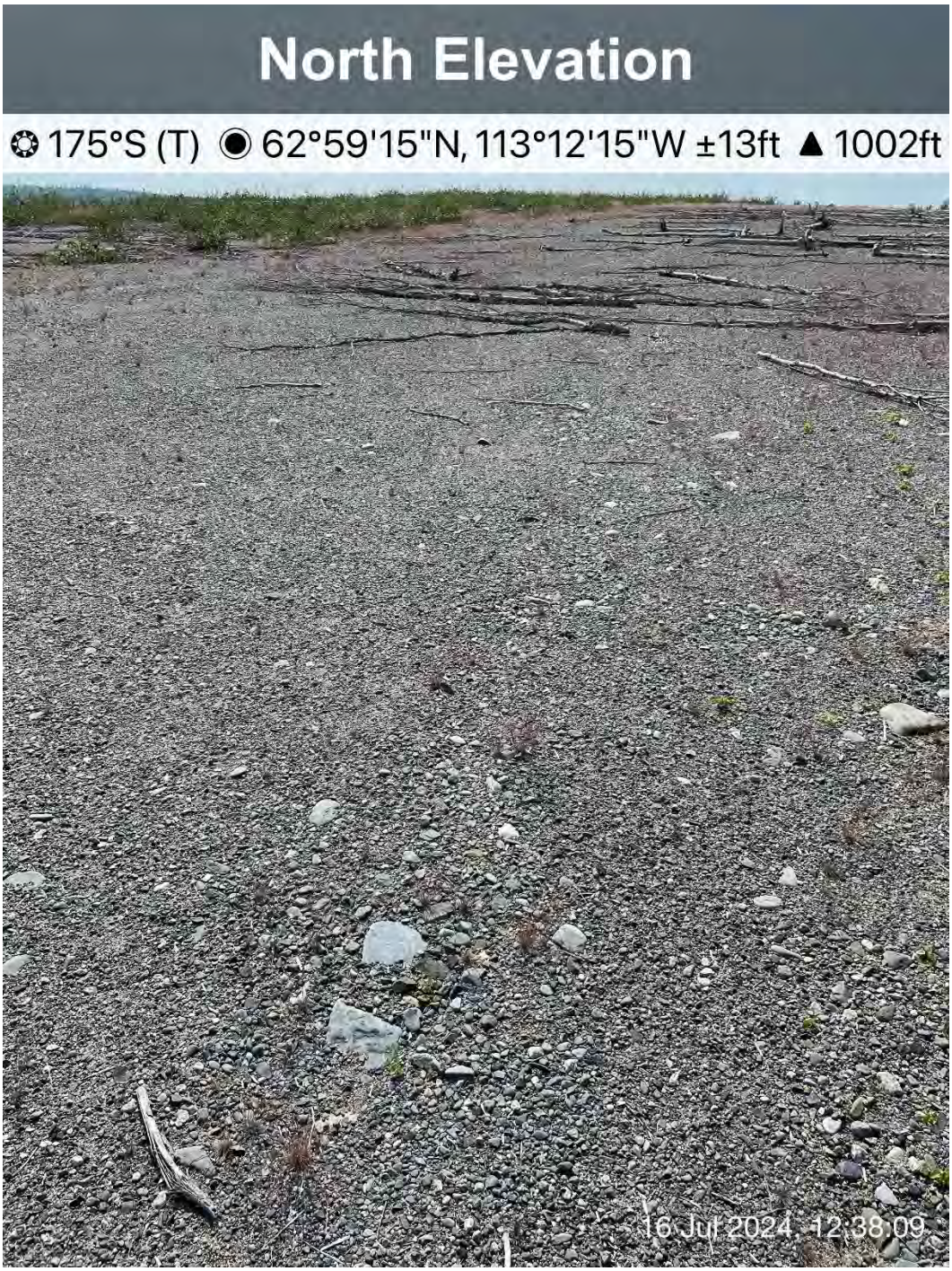

Photo 9: Willow branches cover the top of the TSCA to mitigate potential erosion – partially healed erosion channel visible.

2024 TSCA Safety Inspection Checklist

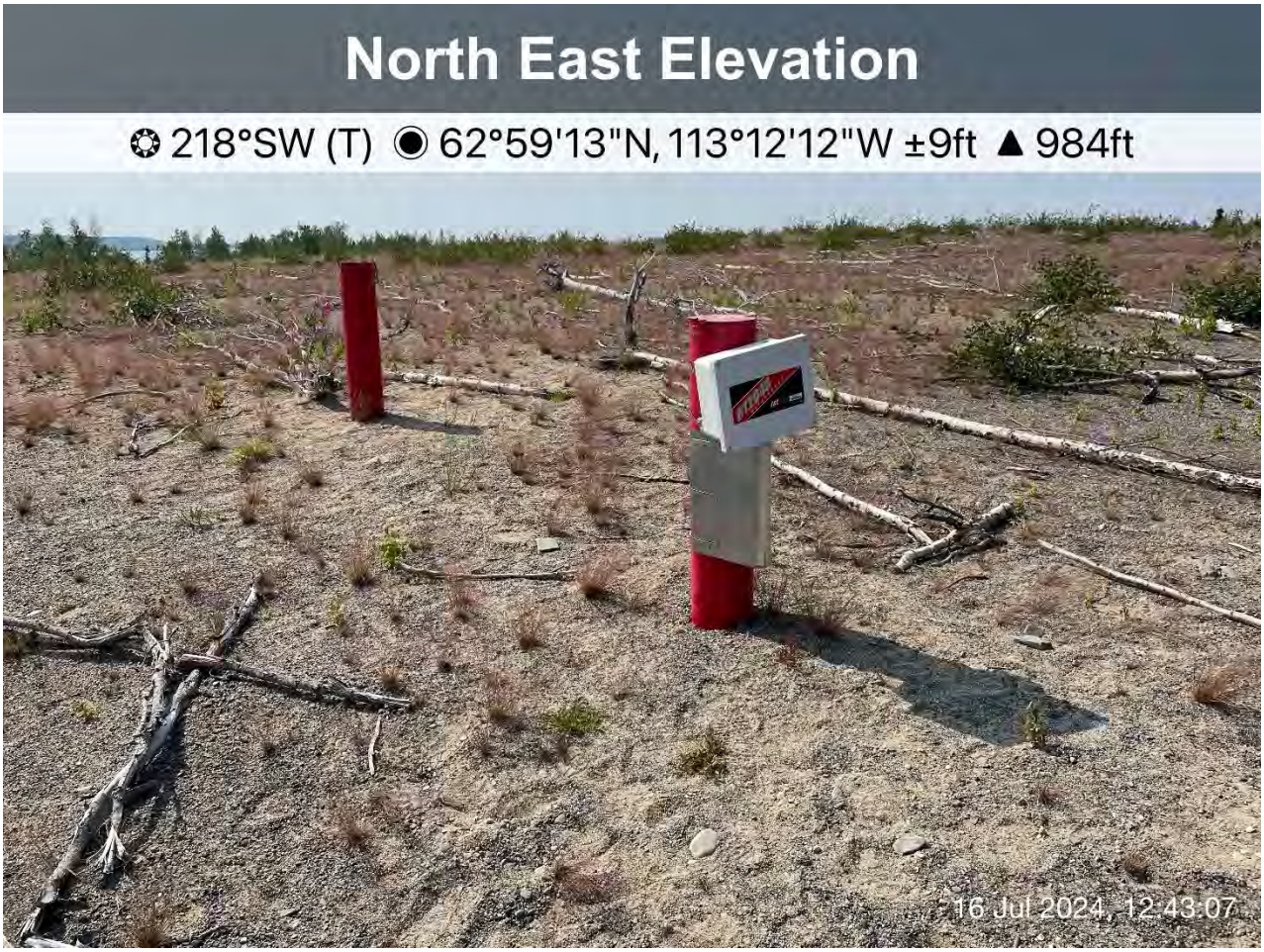

Photo 10: Typical instrument installation.

2024 TSCA Safety Inspection Checklist

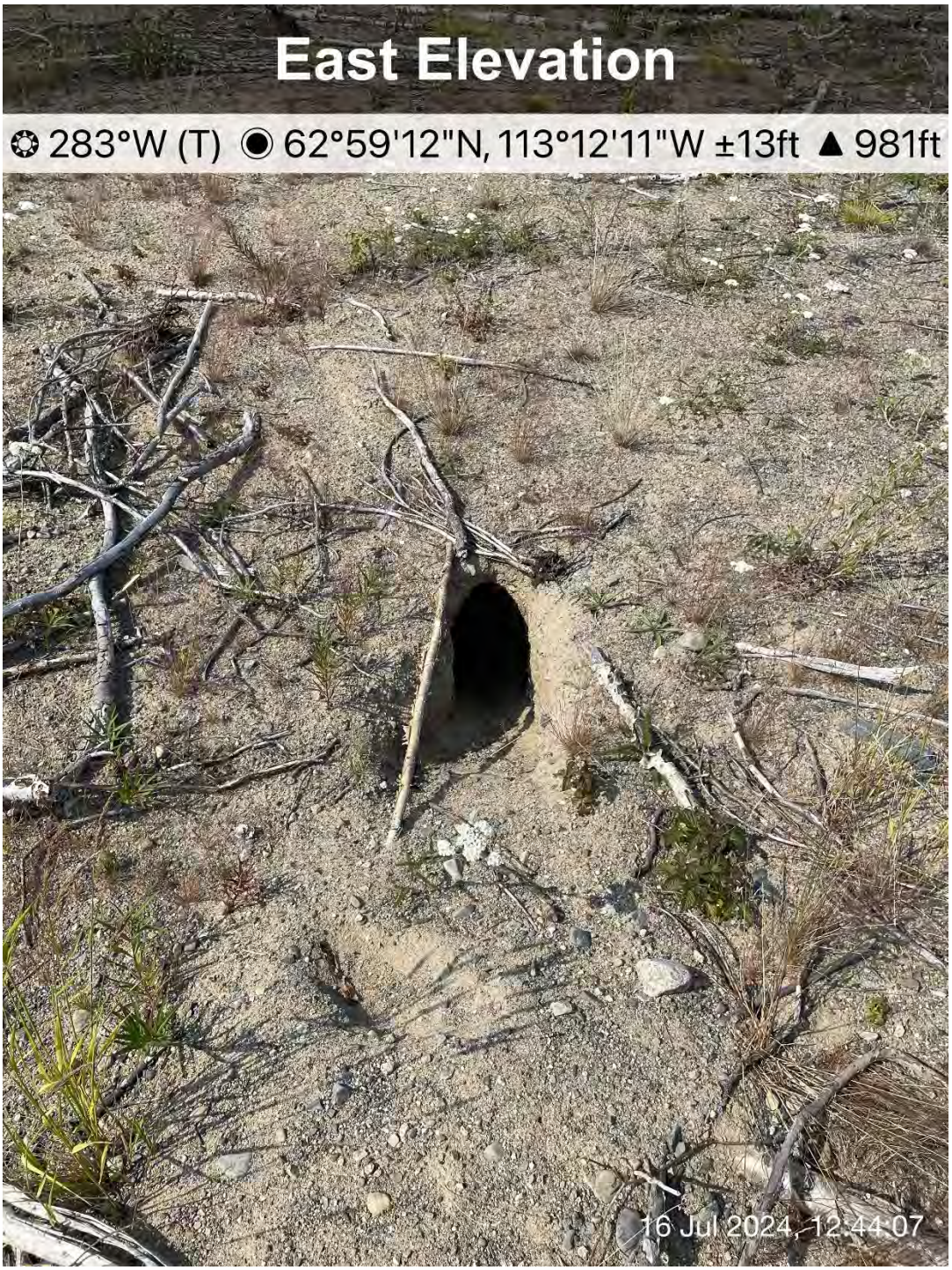

Photo 11: Start of partial animal burrow near east crest of TSCA.

2024 TSCA Safety Inspection Checklist

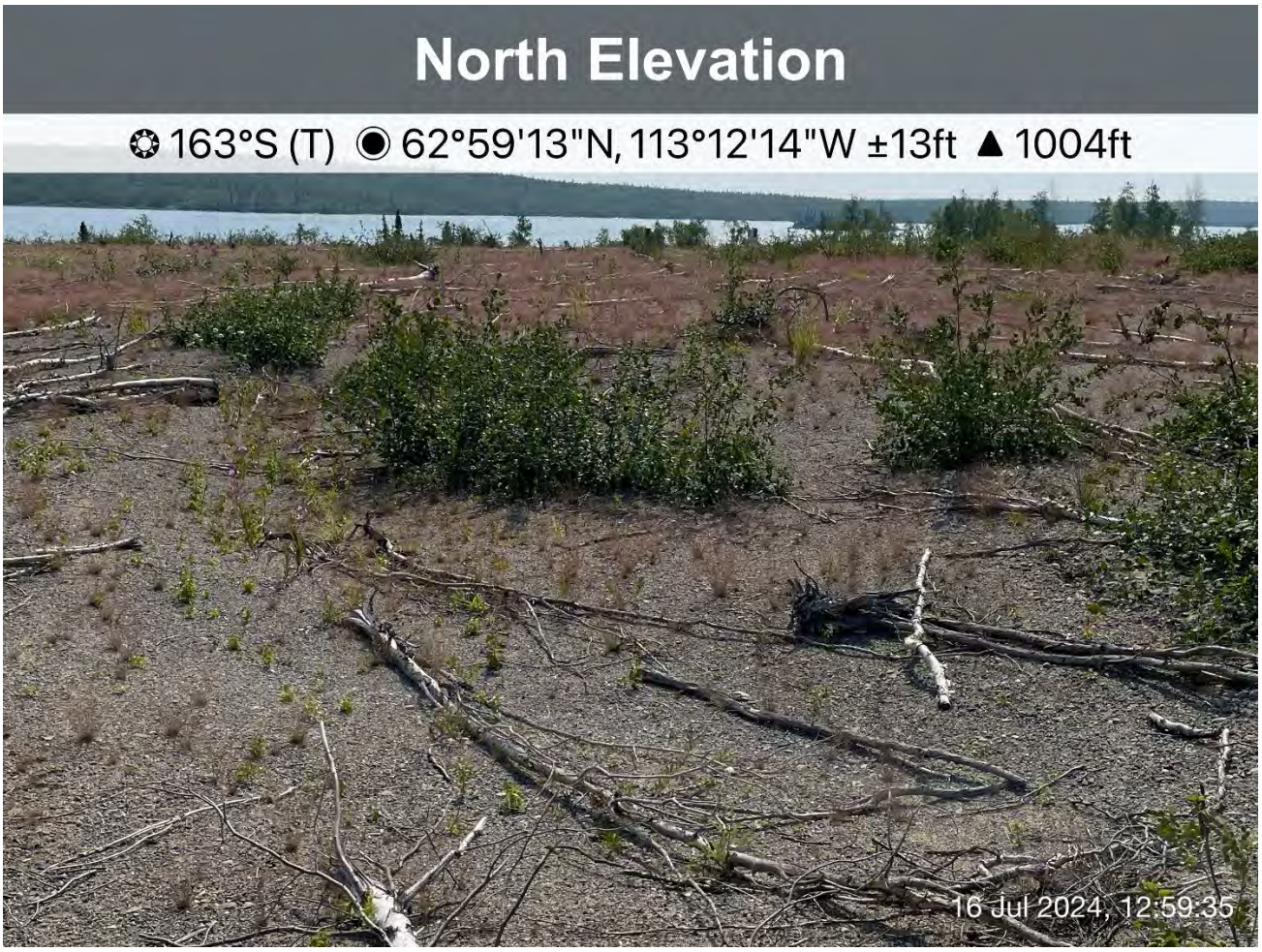

Photo 12: Surface depression near northern perimeter of TSCA.

2024 TSCA Safety Inspection Checklist

Photo 13: TSCA top towards North Perimeter, surface crack zone around depression area – partially healed.

2024 TSCA Safety Inspection Checklist

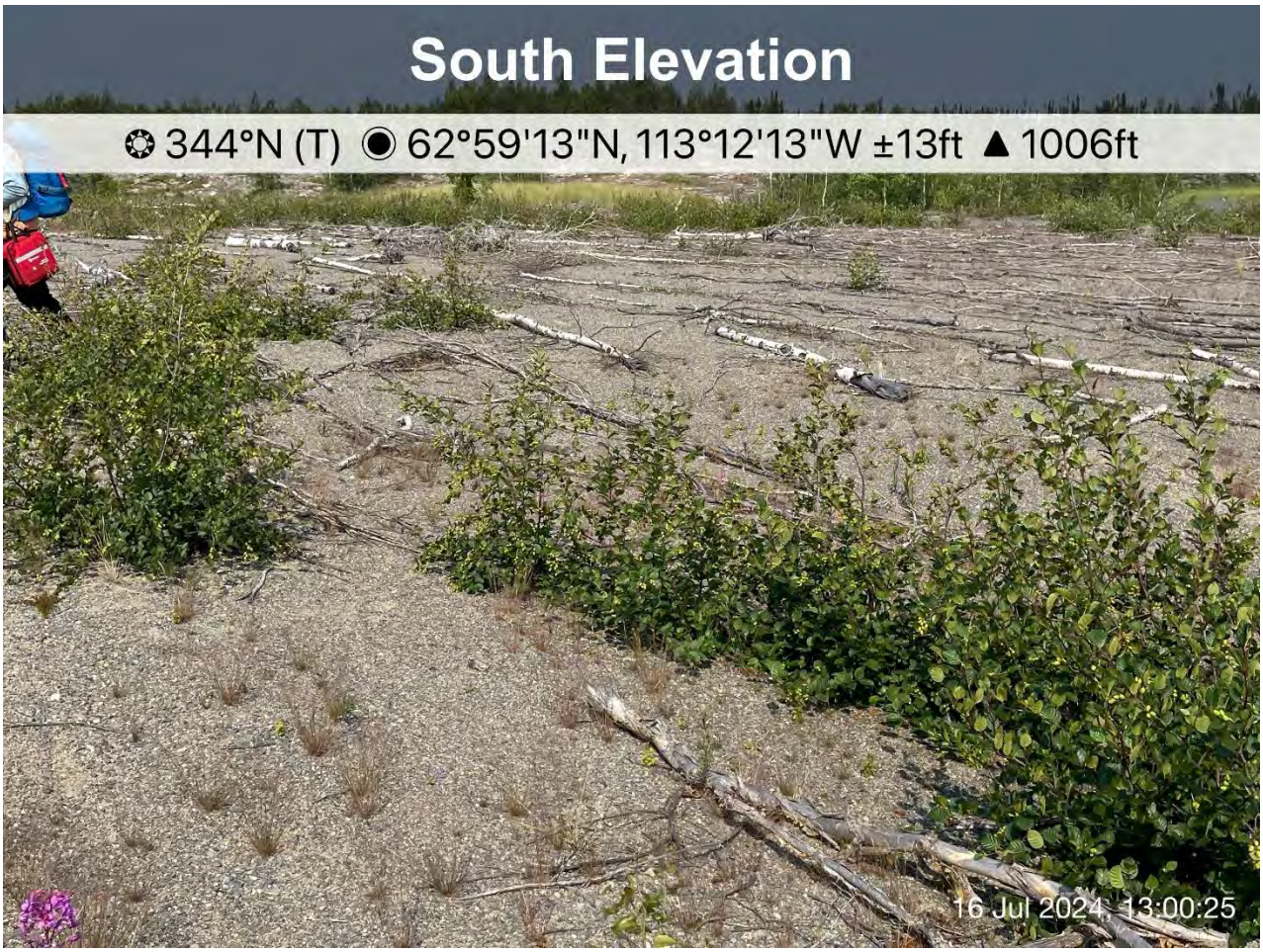

Photo 14: Surface depression near northern perimeter of TSCA.