Crown-Indigenous Relations and Northern Affairs Canada | Relations Couronne-Autochtones et Affaires du Nord Canada

Giant Mine Remediation Project
PO Box 1500
Yellowknife, NT X1A 2R3

October 1, 2024

Beth Cowan
Regulatory Specialist
Mackenzie Valley Land and Water Board
4922 – 48th Street
7th Floor YK Centre Mall
P.O. Box 2130, Yellowknife, NT X1A 2P6

Re: Giant Mine Remediation Project August 2024 Monthly Surveillance Network Program (SNP) Report for MV2007L8-0031

Dear Ms. Cowan:

The Giant Mine Remediation Project (GMRP) is pleased to submit a copy of the August 2024 SNP Report. This report is intended to fulfill the monthly reporting requirements of the SNP as defined in Water Licence MV2007L8-0031, Annex A, Part C Condition 1.

Attached to this document are excel files for raw data tables.

If you have any questions or comments, or require additional information, please contact the undersigned by email at Andrea.Markey@rcaanc-cirnac.gc.ca or by phone at 867-445-6267.

Sincerely,

Andrea Markey

Andrea Markey
Environmental Scientist
Giant Mine Remediation Project

cc. Erika Nissen, Land Use Inspector, CIRNAC – Lands and Resource Management
Megan Larose, Environmental Specialist, CIRNAC – Lands and Resource Management

Encl.
GMRP MV2007L8-0031 August 2024 SNP Monthly Report
GMRP MV2007L8-0031 August 2024 SNP Monthly Report – Excel

Canada

Crown-Indigenous Relations and Northern Affairs Canada
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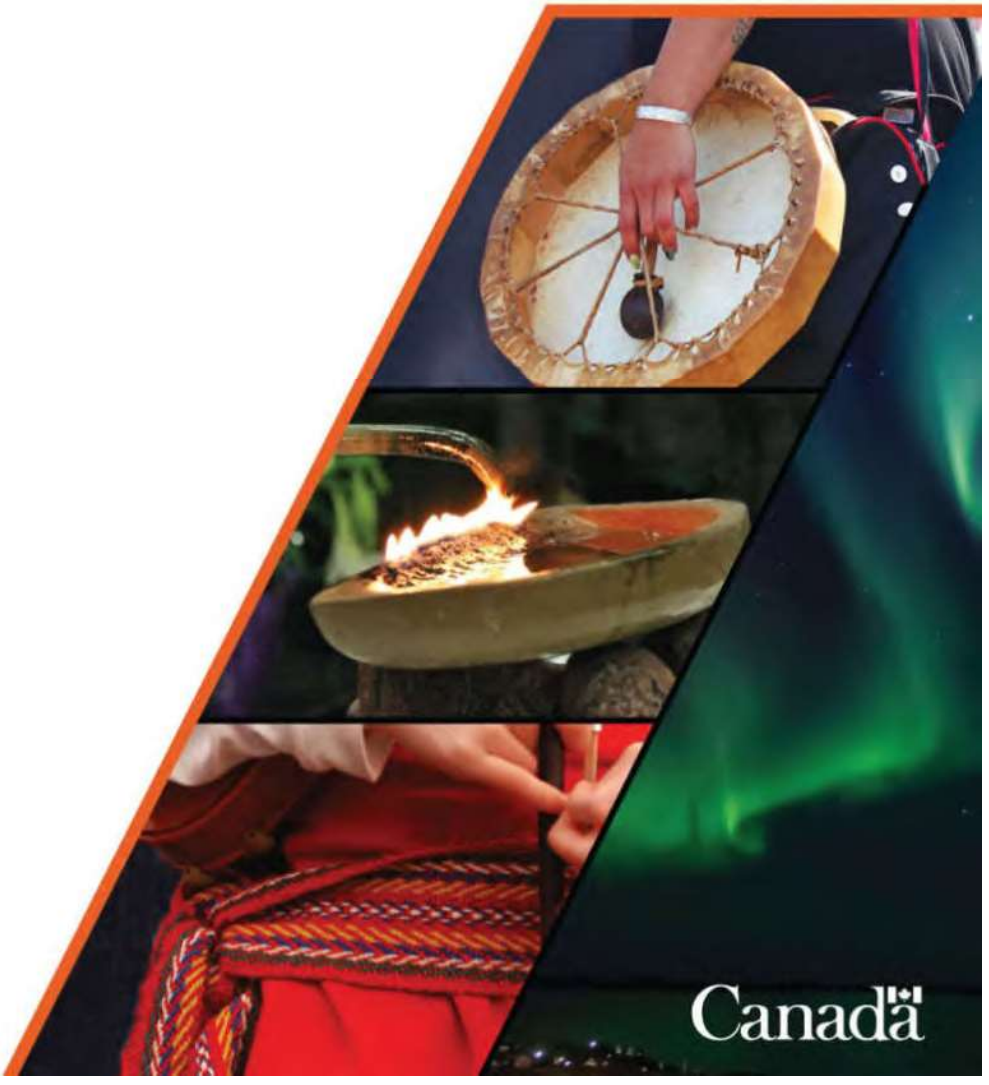
Giant Mine Remediation Project

August 2024 Surveillance Network Program(SNP) Monthly Report (MV2007L8-0031)

October 1, 2024



Canada

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Appendix A

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SNP Summary Report

1.0 Introduction

This report presents a summary of the monitoring activities conducted during August 2024 in support of the Giant Mine Remediation Project (GMRP) Surveillance Network Program (SNP). Specifically, this report addresses the requirements defined in the GMRP Water Licence MV2007L8-0031, Annex A Part C – Reporting Requirements, Condition 1:

"The Licensee shall, within 30 days following the month being reported, submit to the Board and Inspector, in electronic and printed formats acceptable to the Board, all data and information required by the Surveillance Network Program, including the results of the approved QA/QC program and any interpretive comments and calculations."

This report includes results from sampling that was conducted by the GMRP in accordance with the practices and procedures identified in the analyst-approved GMRP Standard Operating Procedures and QA/QC Plan for Effluent and Water Sampling (Version 3.0). SNP samples requiring laboratory analysis were submitted to accredited laboratories that maintain certification with the Canadian Association for Laboratory Accreditation (CALA).

2.0 SNP Sampling Stations and Sampling Status

A summary of SNP stations visited, including coordinates, are presented in Worksheet D.

SNP stations identified in MV2007L8-0031, Annex A which are not yet active and therefore not included in this report:

SNP 43-1A
SNP 43-24
SNP 43-25
SNP 43-26b
SNP 43-27a
SNP 43-27b
SNP 43-27c
SNP 43-28
SNP 43-34
SNP 43-35
SNP 43-36
SNP 43-37
SNP 43-38
SNP 43-39
SNP 43-40
SNP 43-41
SNP 43-42
SNP 43-43
SNP 43-44
1 Groundwater Well (TBD)

3.0 Flow and volume measurements

MV2007L8-0031 Annex A, Part B–Flow and Volume Measurements section includes a list of stations where flow or volume measurements are required. These are presented in Worksheet C, with the exception of stations which are not yet active.

4.0 Closure

This summary report provides a summary of the SNP monitoring activities conducted at the Giant Mine Site in August 2024 through the tables below and fulfills the monthly reporting requirements as defined in the Giant Mine Remediation Project's Type A Water Licence MV2007L8-0031.

Further summary and interpretation of water monitoring results, including the final results for any that are pending or preliminary, will be included in the Annual Water Licence Report, as per Schedule 1, Condition 2 b) xiii).

The next monthly report covering SNP monitoring activities in September 2024 will be submitted on or before October 30, 2024.

5.0 References

Giant Mine Remediation Project Standard Operating Procedures and QA/QC Plan for Effluent and Water Sampling, Version 3.0, September 2022.

MVLWB (Mackenzie Valley Land and Water Board), 2020. Issuance of Type A Water Licence, Crown-Indigenous Relations and Northern Affairs Canada, Giant Mine Remediation Project, Yellowknife, NT. September 2020 (Update to Annex A August 2024)

Figure

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LEGEND

SURVEILLANCE NETWORK PROGRAM (SNP) STATION

- DEEP MULTIPORT WELL
- SHALLOW WELL
- MINEWATER SAMPLED FROM SURFACE
- SURFACE WATER (ACTIVE)
- SURFACE WATER (INACTIVE)
- BREAKWATER
- GIANT MINE ACCESS ROAD
- GIANT MINE SITE BOUNDARY
- HIGHWAY
- ROAD
- WATERCOURSE
- PIT BOUNDARY

0 250 500
1:15,000 METRES

REFERENCE(S)

HYDROLOGY AND TRANSPORTATION DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. IMAGERY COPYRIGHT © 20220817 ESRI AND ITS LICENSORS. SOURCE: MAXAR VIVID. USED UNDER LICENSE, ALL RIGHTS RESERVED.
DATUM: NAD 83 PROJECTION: UTM ZONE 11

PROPONENT

Crown-Indigenous Relations and Northern Affairs Canada
Relations Couronne-Autochtones et Affaires du Nord Canada

Government of Northwest Territories
Gouvernement des Territoires du Nord-Ouest

YYYY-MM-DD	2024-08-29
DESIGNED	M. DONOVAN/E. HENKEMANS
PREPARED	A. AUCOIN
REVIEWED	M. IWANYSHYN
APPROVED	K. SINCLAIR

PROJECT

Giant Mine Remediation Project

TITLE

SURVEILLANCE NETWORK PROGRAM STATIONS AT THE GIANT MINE SITE

REV. 0 FIGURE 1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
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Worksheets

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table A: Table of Contents - August 2024

Worksheet	Contents	Description
A	Table of Contents	Table of contents for the monthly data summary
B	Definitions	Definitions of common acronyms and symbols
C	Water Management Data	Pumping volumes
D	SNP Overview	Overview of the SNP sampling requirements and sampling dates
E	SNP Results	Water quality results for SNP surface water monitoring stations
F	EQC Comparison	Comparison of analytical results from SNP 43-1 to EQC
G	Toxicity Results	Results for toxicity samples collected
H	QAQC Results - Blanks	Quality assurance and quality control results - blanks
I	QAQC Results - Duplicates	Quality assurance and quality control results - duplicates
J	GMRP Parameters	Giant Mine Remediation Project parameter list for water quality

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table B: Definitions of Common Acronyms and Symbols - August 2024

Units & Symbols	
°C	Degrees Celsius
<	Less Than
>	Greater Than
%	Percentage
% v/v	Unit of concentration expressed as percent concentration of volume of solute/volume of solution
m	Metre
m^3	Cubic Metres
mbgs	Metres Below Ground Surface
mbtoc	Metres Below Top Of Casing
µS/cm	Microsiemens per Centimetre
mg/L	Milligrams per Litre
mV	Millivolt
NTU	Nephelometric Turbidity Units
psi	Pounds per Square Inch
Bq/L	Becquerel per Litre
$CaCO_3$	Calcium Carbonate
CFU/100mL	Colony Forming Units per 100 Millilitres
MPN/100mL	Most Probable Number per 100 Millilitres
Acronyms & Abbreviations	
AEMP	Aquatic Effects Monitoring Program
ALS	ALS Environmental Laboratory
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CCME	Canadian Council of Ministers of the Environment
CN	Cyanide
COA	Certificate of analysis
COC	Chain of custody form
CS-V	C-Shaft Void
DL	Detection limit
DQO	Data quality objective
EEM	Environmental Effects Monitoring
EQC	Effluent quality criteria
ETP	Effluent Treatment Plant (existing)
GMRP	Giant Mine Remediation Project
LOR	Limit of Reporting
ICPMS	Inductively coupled plasma mass spectrometry
MCM	Main Construction Manager
MDMER	Metal and Diamond Mining Effluent Regulations
N	Nitrogen
N/A	Not applicable
NC	Not calculated
NAD	North American Datum
NHWL	Non-Hazardous Waste Landfill
NP	North Pond

NWP	Northwest Pond
OMP	Operational Monitoring Program
P	Phosphorus
PP	Polishing Pond
PVC	Polyvinyl chloride
QAQC	Quality assurance/quality control
RDL	Reported detection limit
RPD	Relative percent difference
SCMC	Surface Care and Maintenance Contractor
SMP	Sump
SNP	Surveillance Network Program
SOP	Standard Operating Procedures and QA/QC Plan for Effluent and Water Sampling
SP	Settling Pond
SRN	Sample receipt notification
TBD	To be determined
TCA	Tailings Containment Area
TPH	Total petroleum hydrocarbons
UTM	Universal Transverse Mercator
VOC	Volatile organic compounds
258 Level	Sample station (~258 mbgs)
750 Level	750 Underground Mine Level (~263.2 mbgs)
283 Level	Sample station (~283 mbgs)
950 Level	950 Underground Mine Level (~302.6 mbgs)
1100 Level	1100 Underground Mine Level (~345.0 mbgs)
1250 Level	1250 Underground Mine Level (~394.0 mbgs)
1500 Level	1500 Underground Mine Level (~457.7 mbgs)
1650 Level	1650 Underground Mine Level (~503.1 mbgs)
Laboratory Qualifiers	
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).
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
DTS	Dissolved Sulfur concentration exceeds total. Negative bias on Total Sulfur suspected due to presence of volatile sulfur species lost during digestion
DTMF	Dissolved concentration exceeds total for field-filtered metals sample. Metallic contaminants may have been introduced to dissolved sample during field filtration.
DTSE	Dissolved Se concentration exceeds total. Positive bias on D-Se suspected due to signal enhancement from volatile selenium species. Contact ALS if an alternative test to address this interference is needed
HTA	Analytical holding time was exceeded
HTP	Sample preparation or preservation hold time was exceeded
HTDC	Hold time exceeded for dilution or re-analysis. Reported results are consistent with initial results (tested within hold time), and are valid and defensible.
PHA	pH adjusted before analysis.
RRV	Reported result verified by repeat analysis
SP	Sample was preserved at the laboratory.
SFT	Sample was filtered due to turbidity interference. Result reflects soluble analyte concentration

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table C1: Summary of Pumping Volumes - August 2024

Source	Volume (m^3)
Water treated from NWP	17,756
Water treated from NP	0
Water treated from PP	0
Total water treated at ETP	17,756
Volume discharged at SNP 43-1	23,087
Pumped water to surface via SNP 43-17	0
Pumped water to surface via SNP 43-21 Pump	147
Pumped water to surface via SNP 43-21A Pump	46,712

Table C2: Summary of Pump-back Volumes - August 2024

Source	Pump-back Volume (m^3)
Sump for South Pond (SNP 43-29)	0
Sump on the north end of Northwest Pond (SNP 43-30)	0
Sump on the north end of North Pond (SNP 43-31)	0
Sump downstream of Dam 1 and Polishing Pond (SNP 43-32)	0
Sump south of B2 Pit near Brock Pit (SNP 43-33)	0
SNP43-26A	0
SNP43-26B	0
SNP43-26C	0

Data provided by Parsons on September 19, 2024.

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table D: SNP Sampling Overview - August 2024

Station	UTM Coordinates		Program	Location Description	Rationale	Frequency	Sampling Dates/Deviations	Sample Type	Parameters [a, g]
	Easting	Northing							
Surface Water Monitoring Stations - Effluent Sampling									
SNP 43-1	636367	6933862	SNP MDMER/EEM	Treated effluent discharge from the ETP	Point of compliance; ensures effluent from the ETP meets the EQC and MDMER limits. Monitors volume of effluent discharged.	Water Quality: Weekly (24-hour composite) during discharge [b] Weekly (grab) during discharge [c] Monthly (grab) during discharge [d]; sampling to correspond with SNP 43-11 and Baker Creek Exposure Point Toxicity: Acute - Monthly during discharge Sublethal - Once per calendar quarter during discharge	August 6, 2024 [l] August 13, 2024 August 19, 2024 August 28, 2024	Water Quality: Autosampler/Grab Toxicity: Grab	Water Quality: Weekly (composite): GMRP Parameter List, TPH, total cyanide, radium-226 Weekly (grab): Total ammonia and field temperature and pH [c] Monthly (grab): GMRP Parameter List, TPH, total cyanide, radium-226, sulphide, fecal coliforms; discharge volume (m^3) [e] Toxicity [h]: Monthly: Acute (multi-concentration) - Rainbow Trout and *Daphnia magna* Quarterly: Sublethal (multi-concentration) - *Pseudokirchneriella subcapitata, Lemna minor, Ceriodaphnia dubia* and *Pimephales promelas*
PL-PO	636587	6934042	SNP OMP	Polishing Pond	Monitors treated effluent quality in the Polishing Pond; provides an indication of whether effluent meets discharge limits.	Water Quality: Pre-discharge (SNP) - 10 days prior to the start of discharge (report results a minimum of 5 days prior to discharge) Monthly (OMP) - during discharge Toxicity: Acute (SNP) - 10 days prior to the start of discharge	August 13, 2024 (OMP)	Water Quality: Grab Toxicity: Grab	Water Quality: GMRP Parameter List, TPH [f] Toxicity: Acute testing (pass/fail) with D. magna and Rainbow Trout
SNP Surface Water Monitoring Stations									
SNP 43-5	635893	6931243	SNP AEMP	Baker Creek just prior to entering Yellowknife Bay	Monitors quality of combined water leaving Baker Creek to Yellowknife Bay including input from adjacent lake.	Weekly during open water season [b]; sampling to correspond with SNP 43-23	August 01, 2024 August 06, 2024 August 14, 2024 August 19, 2024 August 28, 2024	Grab	GMRP Parameter List, TPH (total phosphorus by colourimetric method)
SNP 43-11	635726	6933914	SNP MDMER/EEM AEMP	Baker Creek, upstream of SNP 43-1 (instream reference area)	Monitors quality of water entering site (reference area) upstream from ETP	Monthly during open water season; sampling to correspond with SNP 43-1 and Baker Creek Exposure Point during discharge	August 06, 2024	Grab	GMRP Parameter List, TPH, radium-226 (radium-226 during discharge only; total phosphorus by colourimetric method)
SNP 43-12	636056	6931125	SNP	End of breakwater at the outlet of Baker Creek to Back Bay (sampled from the Great Slave Sailing Club)	Monitors Water quality of initial mixing in Yellowknife Bay; related to approved EA0809-001 Measure 13. Maintains long-term dataset at this location.	Monthly during open water season	August 14, 2024	Grab	GMRP Parameter List, TPH (total phosphorus by colourimetric method)
SNP 43-16	636000	6933911	SNP	Trapper Creek below the Northwest Pond tailings dams (Dam 21A, B, C, and D) and above the confluence of Trapper Creek and Baker Pond/Baker Creek	To characterize runoff, lateral seepage, and upstream loading to Baker Creek.	Monthly during open water season	August 14, 2024	Grab	GMRP Parameter List (total phosphorus by colourimetric method)
SNP 43-17	636436	6934857	SNP	Minewater from the Supercrest area at 750L (overflow of High Test Line to Northwest Pond)	Monitors the quality of underground minewater pumped into Northwest Pond, when activated as needed for supplemental pumping.	Monthly when pump is active	[i]	Grab	GMRP Parameter List
SNP 43-21	636475	6935416	SNP OMP	Northwest Shaft pumping minewater from underground to Northwest Pond	Monitors the quality of minewater pumped from underground to Northwest Pond.	Monthly (grab) during operational stand-by check **OR** Weekly (composite) when old pump is used as main pumping source [b]	August 16, 2024 (OMP)	Grab/Autosampler	Monthly: GMRP Parameter List **OR** Weekly: GMRP Parameter List, TPH, fecal coliforms; pumping volumes (m^3) [e]
SNP 43-21A	636618	6935360	SNP	New submersible Northwest pumps transferring water to Northwest Pond	Monitors the quality of minewater from underground to Northwest Pond.	Weekly year-round when pumps are active [b]	August 03, 2024 August 06, 2024 August 16, 2024 August 19, 2024 [i] August 28, 2024	Autosampler (weekly composite)	GMRP Parameter List, TPH, fecal coliforms; pumping volumes (m^3) [e]

Station	UTM Coordinates		Program	Location Description	Rationale	Frequency	Sampling Dates/Deviations	Sample Type	Parameters [a, g]
	Easting	Northing							
SNP 43-23	635621	6931323	SNP	Baker Creek, Reach 1	Monitors water quality at Baker Creek upstream of input from City of Yellowknife Landfill and Joe Lake Watershed.	Weekly during open water season [b]; sampling to correspond with SNP 43-5	August 01, 2024 August 06, 2024 August 14, 2024 August 19, 2024 August 28, 2024	Grab	GMRP Parameter List (total phosphorus by colourimetric method)
SNP 43-26A	636142	6932466	SNP	Non-Hazardous Waste Landfill Infrastructure Cell Sump	Monitors the water quality of runoff and seepage from the on-site non-hazardous landfill. Monitors pump-back volume.	Monthly during non-frozen ground conditions	August 14, 2024 [j]	Grab	GMRP Parameter List, pump-back water volume (m^3) [e]
SNP 43-26C	636057	6932451	SNP	Non-Hazardous Waste Landfill Run-on Pond	Monitors the water quality of runoff and seepage from the on-site non-hazardous landfill. Monitors pump-back volume.	Monthly during non-frozen ground conditions	[i]	Grab	GMRP Parameter List, pump-back water volume (m^3) [e]
SNP 43-29	636568	6932586	SNP	Sump for South Pond - formerly SMP-1	Monitors the water quality of runoff and seepage from South Pond - includes pump-back from Dam 11. Monitors pump-back volume.	Monthly during open water season	August 14, 2024	Grab	GMRP Parameter List, pump-back water volume (m^3) [e]
SNP 43-30	636224	6935573	SNP	Sump on north end of Northwest Pond - formerly SMP-2	Monitors the water quality of runoff and seepage from Northwest Pond - includes pump-back from Dam 22 and existing landfill. Monitors pump-back volume.	Monthly during open water season	August 14, 2024	Grab	GMRP Parameter List, pump-back water volume (m^3) [e]
SNP 43-31	637192	6934233	SNP	Sump on north end of North Pond - formerly SMP-3	Monitors the water quality of runoff and seepage from North Pond and Dam 3 - close to Yellowknife River. Monitors pump-back volume.	Monthly during open water season	August 14, 2024	Grab	GMRP Parameter List, pump-back water volume (m^3) [e]
SNP 43-32	636340	6933860	SNP	Sump downstream of Dam 1 and Polishing Pond - formerly SMP-4	Monitors the Water quality of runoff and seepage from the Polishing Pond. Monitors pump-back volume.	Monthly during open water season	August 14, 2024	Grab	GMRP Parameter List, pump-back water volume (m^3) [e]
SNP 43-33	635601	6932612	SNP	Sump south of B2 Pit near Brock Pit - formerly SMP-5	Monitors the water quality of runoff and seepage from B2 Pit. Monitors pump-back volume.	Monthly during open water season	August 14, 2024 [j]	Grab	GMRP Parameter List, pump-back water volume (m^3) [e]
Shallow Groundwater Monitoring Stations									
MW00-02	635969	6934326	SNP	South of Northwest Pond	Monitors groundwater quality between Northwest Pond and Trapper Creek.	Twice per year (spring/fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW00-03A	636095	6935530	SNP	North of Northwest Pond	Monitors groundwater quality between Northwest Pond and Trapper Lake.	Twice per year (spring/fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW00-03B	636095	6935530	SNP	North of Northwest Pond	Monitors groundwater quality between Northwest Pond and Trapper Lake.	Twice per year (spring/fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW01-2A	636666	6932302	SNP	Within the Foreshore Tailings	Monitors groundwater quality in Foreshore Tailings area.	Twice per year (spring/fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW01-2B	636666	6932302	SNP	Within the Foreshore Tailings	Monitors groundwater quality in Foreshore Tailings area.	Twice per year (spring/fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW00-04A	637310	6934220	SNP	North Tailings release, northwest of North Pond	Monitors groundwater quality between Northwest Pond and Yellowknife River.	Twice per year (spring/fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW00-04B	637310	6934220	SNP	North Tailings release, northwest of North Pond	Monitors groundwater quality between Northwest Pond and Yellowknife River.	Twice per year (spring/fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW21-03	637657	6934510	SNP	North-northeast of Dam 3C toward Yellowknife Bay	Monitors groundwater quality (assess lateral groundwater flow).	Once per year (fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW21-04	637765	6933745	SNP	East-northeast of Dam 3D - toward Yellowknife Bay	Monitors groundwater quality (assess lateral groundwater flow).	Once per year (fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW21-05	637292	6933751	SNP	East of North Pond	Monitors groundwater quality between North Pond and Yellowknife Bay.	Twice per year (spring/fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW21-06	636954	6933315	SNP	East of Central Pond	Monitors groundwater quality between Central Pond and Yellowknife Bay.	Twice per year (spring/fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW21-07	635441	6930977	SNP	North of the City of Yellowknife Landfill, entering the Site boundary	Monitors groundwater quality (potential lateral migration to Baker Creek from City of Yellowknife Landfill).	Twice per year (spring/fall)	-	Grab	GMRP Parameter List; Water Level Measurements (mbgs)

Station		UTM Coordinates		Program	Location Description	Rationale	Frequency	Sampling Dates/Deviations	Sample Type	Parameters [a, g]
		Easting	Northing							
Deep Multiport Groundwater Monitoring Stations										
S-DIAND-001	Zone 4	635827	6931283	SNP	Near Baker Creek and Yellowknife Bay	Monitors and characterizes bedrock groundwater quality near Baker Creek and Yellowknife Bay.	Twice per year (spring/fall)	-	Pressure Measurements: Zones 1 - 10 Water Quality: Grab - Zones 4, 8 & 10	GMRP Parameter List; Pressure Measurements (psi)
	Zone 8							-		
	Zone 10							-		
S-DIAND-022	Zone 2	636983	6935127	SNP	East of Northwest Pond	Monitors and characterizes bedrock groundwater quality east of Northwest Pond.	Twice per year (spring/fall)	-	Pressure Measurements: Zones 1 - 12 Water Quality: Grab - Zones 2, 4 & 11	GMRP Parameter List; Pressure Measurements (psi)
	Zone 4							-		
	Zone 11							-		
S-DIAND-023	Zone 2	637005	6933462	SNP	South of North Pond and north of Central Pond	Monitors and characterizes bedrock groundwater quality south of North Pond and north of Central Pond.	Twice per year (spring/fall)	-	Pressure Measurements: Zones 1 - 10 Water Quality: Grab - Zones 2 & 10	GMRP Parameter List; Pressure Measurements (psi)
	Zone 10							-		
S-1954	Zone 2	636799	6932433	SNP	South of South Pond, near the Foreshore Tailings and towards Yellowknife Bay	Monitors and characterize bedrock groundwater quality south of South Pond, near the Foreshore Tailings and towards Yellowknife Bay.	Twice per year (spring/fall)	-	Pressure Measurements: Zones 1 to 5 Water Quality: Grab - Zones 2 & 5	GMRP Parameter List; Pressure Measurements (psi)
	Zone 5							-		
S-1955	Zone 2	636473	6932122	SNP	Shoreline of Yellowknife Bay	Monitors and characterizes bedrock groundwater quality.	Twice per year (spring/fall)	-	Pressure Measurements: Zones 1 - 7 Water Quality: Grab - Zones 2 & 6	GMRP Parameter List; Pressure Measurements (psi)
	Zone 6							-		
S-1956	Zone 4	636855	6932792	SNP	East of South Pond, towards Yellowknife Bay	Monitors and characterizes bedrock groundwater quality.	Twice per year (spring/fall)	-	Pressure Measurements: Zones 1 to 10 Water Quality: Grab - Zones 4 & 10	GMRP Parameter List; Pressure Measurements (psi)
	Zone 10							-		
S-2224	Zone 3	637119	6934284	SNP	North of North Pond and Dam 3C	Monitors and characterizes bedrock groundwater quality.	Twice per year (spring/fall)	-	Pressure Measurement: Zones 1 - 10 Water Quality: Grab - Zones 3 & 9	GMRP Parameter List; Pressure Measurements (psi)
	Zone 9							-		

Notes:

Dark Shading indicates that the location was not sampled during the reporting period
Hatched shading indicates that the locations will be removed from the sampling program in the future due to decommissioning or closure of access to the underground.

(a) Total Petroleum Hydrocarbon (TPH) analysis includes volatile organic compounds (VOCs) (i.e., benzene, toluene, ethylbenzene, and xylenes [BTEX]) and petroleum hydrocarbon (PHC) fractions F1 to F4).
(b) A week is defined as Sunday to Saturday.
(c) Weekly samples for analysis of total ammonia must be collected as grab samples from the spigot to meet MDMER requirements. Record field temperature and pH at the time of sampling.
(d) For weeks when a monthly sample is collected, the monthly sample will be collected instead of the weekly samples (i.e. the monthly grab sample replaces the weekly composite + weekly grab sample).
(e) Water volumes to be provided by the Main Construction Manager (MCM) on a monthly basis.
(f) TPH analysis at PL-PO is only required for the pre-discharge sample.
(g) When colourimetric analysis of total phosphorus is required, only colourimetric results should be reported (not total phosphorus results from the metals scan).
(h) Toxicity sampling at SNP 43-1 should correspond with collection of the monthly grab water quality sample and come from the same aliquot.
(i) Pump/station not active. No sample collected.
(j) Location dry
(l) Monthly and quarterly toxicity samples

UTM = Universal Transverse Mercator; SNP = Surveillance Network Program; MDMER = Metal and Diamond Mine Effluent Regulations; EEM = Environmental Effects Monitoring; ETP = effluent treatment plant (existing); EQC = Effluent Quality Criteria; GMRP = Giant Mine Remediation Project; m^3 = cubic meters; AEMP = Aquatic Effects Monitoring Program; OMP = Operational Monitoring Program; TBD = To Be Determined; SMP = Sump; mbgs = meters

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table E: Water Quality Results for SNP Stations - Surface Water Monitoring Stations - August 2024

		Sample Location	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**
		Sample Date	**2024-08-06**	**2024-08-13**	**2024-08-13**	**2024-08-19**	**2024-08-19**	**2024-08-28**
		Sample Type	**Spigot**	**Composite**	**Spigot**	**Composite**	**Spigot**	**Composite**
		Unique Sample Identifier	**SNP431-240806**	**SNP431-240813**	**SNP431-G-240813**	**SNP431-240819**	**SNP431-G-240819**	**SNP431-240828**
		Laboratory Sample ID	**YL2401115-001 YL2401117-001**	**YL2401169-010 YL2401171 -001**	**YL2401169-008**	**YL2401218-003 YL2401219 - 001**	**YL2401218-001**	**YL2401325-004 YL2401324-001**
Parameter Name	**Unit**	**LOR**						
Field Parameters								
Water Velocity	m/s	<0.01 m/s	-	-	-	-	-	-
Sample Depth	m	0.1 m	-	-	-	-	-	-
Water Depth	m	0.1 m	-	-	-	-	-	-
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	21.19	13.26	19.50	11.55	19.86	10.90
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	7.00	7.45	7.08	7.65	7.34	7.94
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	107.55	103.19	106.57	102.63	107.04	103.10
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	9.20	10.30	9.33	10.54	9.21	10.74
Oxygen Reduction Potential	mV	Range ± 1400 mV Resolution 0.1 mV Accuracy of ±2% of reading	-	217.70	-	220.90	-	226.40
Specific Conductivity	µS/cm	Range: 0 to 350,000 µS/cm Resolution of 0.1 µS/cm Accuracy of ±0.5% of reading + 1 µS/cm from 0 to 100,000 µS/cm	3423.50	3194.70	3101.80	3032.50	3100.30	3326.10

		Sample Location	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**
		Sample Date	**2024-08-06**	**2024-08-13**	**2024-08-13**	**2024-08-19**	**2024-08-19**	**2024-08-28**
		Sample Type	**Spigot**	**Composite**	**Spigot**	**Composite**	**Spigot**	**Composite**
		Unique Sample Identifier	**SNP431-240806**	**SNP431-240813**	**SNP431-G-240813**	**SNP431-240819**	**SNP431-G-240819**	**SNP431-240828**
		Laboratory Sample ID	**YL2401115-001 YL2401117-001**	**YL2401169-010 YL2401171 -001**	**YL2401169-008**	**YL2401218-003 YL2401219 - 001**	**YL2401218-001**	**YL2401325-004 YL2401324-001**
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	0.49	1.90	1.14	0.62	0.14	0.59
Data Quality Objectives		**Limit**						
pH	pH Units	1 pH Unit	0.86	0.32	-	0.13	-	0.18
Specific Conductivity	µS/cm	20% RPD	0.48%	4.75%	-	14.03%	-	0.18%
Turbidity [(a)]	NTU	2 NTU	0.19	1.43	-	0.16	-	0.14
Conventional (Routine) Parameters								
pH	pH Units	0.10	7.86	7.77	-	7.78	-	7.76
Specific Conductivity	µS/cm	1.0	3440	3350	-	3490	-	3320
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	1500	1530	-	1520.00	-	1580
Total Alkalinity, as $CaCO_3$	mg/L	1.0	41	40.8	-	44.4	-	42.1
Total Dissolved Solids	mg/L	3.0	2920	3440	-	2800	-	2710
Total Suspended Solids	mg/L	1.0	< 1.0	2.8	-	< 1.0	-	2.5
Turbidity	NTU	0.10	0.3	0.47	-	0.46	-	0.45
Major Ions								
Bicarbonate, as $CaCO_3$	mg/L	1.0	41.0	40.8	-	44.4	-	42.1
Calcium	mg/L	0.050	430	423	-	427	-	443
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	-	< 1.0	-	< 1.0
Chloride	mg/L	0.50	498	510	-	514	-	501
Fluoride	mg/L	0.020	< 0.400 DLDS	< 0.400 DLDS	-	< 0.400 DLDS	-	< 0.400 DLDS
Magnesium	mg/L	0.0050	104	116	-	110	-	115
Potassium	mg/L	0.050	13.0	13.4	-	14.0	-	13.5
Sodium	mg/L	0.050	181	200	-	202	-	212
Sulphate	mg/L	0.30	1190	1180	-	1260	-	1200
Reactive silica	mg/L	0.50	1.34	1.30	-	1.10 SFT	-	0.97
Nutrients								
Nitrate, as N	mg/L	0.0050	0.528	0.545	-	0.542 HTDC	-	0.516
Nitrite, as N	mg/L	0.0010	< 0.0200 DLDS	< 0.0200 DLDS	-	< 0.0200 DLDS, HTDC	-	< 0.0200 DLDS
Total Ammonia, as N	mg/L	0.0050	0.0186	0.0272	0.0197	0.0188	0.0186	0.0185
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 0.100 DLA	< 0.100 DLA	-	< 0.100 DLA	-	< 0.100 DLA
Total Phosphorus (Colourimetric), as P	mg/L	0.002	-	-	-	-	-	-
Organic Carbon								
Total organic carbon	mg/L	0.50	6.58	6.87 RRV	-	7.01	-	7.27
Dissolved organic carbon	mg/L	0.50	6.87	8.64 RRV	-	8.16	-	8.14
Total Metals								
Aluminum	mg/L	0.0030	0.0118	0.0094	-	0.0104	-	0.0084
Antimony	mg/L	0.00010	0.171	0.172	-	0.165	-	0.186
Arsenic	mg/L	0.00010	0.243	0.258	-	0.278	-	0.273
Barium	mg/L	0.00010	0.0170	0.0173	-	0.0167	-	0.0170

		Sample Location	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**
		Sample Date	**2024-08-06**	**2024-08-13**	**2024-08-13**	**2024-08-19**	**2024-08-19**	**2024-08-28**
		Sample Type	**Spigot**	**Composite**	**Spigot**	**Composite**	**Spigot**	**Composite**
		Unique Sample Identifier	**SNP431-240806**	**SNP431-240813**	**SNP431-G-240813**	**SNP431-240819**	**SNP431-G-240819**	**SNP431-240828**
		Laboratory Sample ID	**YL2401115-001 YL2401117-001**	**YL2401169-010 YL2401171 -001**	**YL2401169-008**	**YL2401218-003 YL2401219 - 001**	**YL2401218-001**	**YL2401325-004 YL2401324-001**
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	-	< 0.000100	-	< 0.000100
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	-	< 0.000100 DLA	-	< 0.000100 DLA
Boron	mg/L	0.010	0.358	0.347	-	0.316	-	0.321
Cadmium	mg/L	0.0000050	< 0.0000200 DLM	0.0000226	-	0.0000205	-	0.0000225
Cesium	mg/L	0.000010	0.000416	0.000395	-	0.000365	-	0.000379
Chromium (III+VI)	mg/L	0.00010	0.00028	0.00037	-	0.00026	-	0.00028
Cobalt	mg/L	0.00010	0.00460	0.00441	-	0.00429	-	0.00394
Copper	mg/L	0.00050	0.00761	0.00787	-	0.00862	-	0.00894
Iron	mg/L	0.010	0.044	0.034	-	0.024	-	< 0.020 DLA
Lead	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	-	< 0.000100 DLA	-	< 0.000100 DLA
Lithium	mg/L	0.0010	0.0363	0.0385	-	0.0368	-	0.0355
Manganese	mg/L	0.00010	0.00417	0.00436	-	0.00335	-	0.00262
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	-	< 0.0000050
Molybdenum	mg/L	0.000050	0.0172	0.0176	-	0.0164	-	0.0177
Nickel	mg/L	0.00050	0.00791	0.00837	-	0.00969	-	0.00971
Rubidium	mg/L	0.00020	0.0117	0.0117	-	0.0122	-	0.0120
Selenium	mg/L	0.000050	0.000324	0.000370	-	0.000405	-	0.000403
Silver	mg/L	0.000010	0.000044	0.000049	-	0.000044	-	0.000046
Strontium	mg/L	0.00020	4.32	4.36	-	4.06	-	4.45
Sulphur (as S)	mg/L	0.50	431	494	-	487	-	430
Thallium	mg/L	0.000010	0.000023	< 0.000020 DLA	-	0.000025	-	< 0.000020 DLA
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	-	< 0.00020 DLA	-	< 0.00020 DLA
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00060 DLA	-	< 0.00060 DLA	-	< 0.00060 DLA
Uranium	mg/L	0.000010	0.00264	0.00248	-	0.00270	-	0.00264
Vanadium	mg/L	0.00050	< 0.00100 DLA	< 0.00100 DLA	-	< 0.00100 DLA	-	< 0.00100 DLA
Zinc	mg/L	0.0030	< 0.0060 DLA	< 0.0060 DLA	-	< 0.0060 DLA	-	< 0.0060 DLA
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	-	< 0.00040 DLA	-	< 0.00040 DLA
Dissolved Metals								
Aluminum	mg/L	0.0010	0.0108	0.0095	-	0.0095	-	0.0066
Antimony	mg/L	0.00010	0.172	0.163	-	0.171	-	0.179
Arsenic	mg/L	0.00010	0.230	0.246	-	0.266	-	0.274
Barium	mg/L	0.00010	0.0163	0.0176	-	0.0176	-	0.0178
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	-	< 0.000100 DLA	-	< 0.000100
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	-	< 0.000100 DLA	-	< 0.000100 DLA
Boron	mg/L	0.010	0.327	0.298	-	0.306	-	0.310
Cadmium	mg/L	0.0000050	0.0000218	0.0000184	-	0.0000235	-	0.0000219
Cesium	mg/L	0.000010	0.000399	0.000383	-	0.000381	-	0.000368
Chromium (III+VI)	mg/L	0.00010	0.00023	0.00028	-	0.00030	-	0.00025
Cobalt	mg/L	0.00010	0.00438	0.00426	-	0.00400	-	0.00373
Copper	mg/L	0.00020	0.00681	0.00726	-	0.00786	-	0.00846
Iron	mg/L	0.010	< 0.020 DLA	< 0.020 DLA	-	< 0.020 DLA	-	< 0.020 DLA
Lead	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	-	< 0.000100 DLA	-	< 0.000100 DLA

		Sample Location	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**
		Sample Date	**2024-08-06**	**2024-08-13**	**2024-08-13**	**2024-08-19**	**2024-08-19**	**2024-08-28**
		Sample Type	**Spigot**	**Composite**	**Spigot**	**Composite**	**Spigot**	**Composite**
		Unique Sample Identifier	**SNP431-240806**	**SNP431-240813**	**SNP431-G-240813**	**SNP431-240819**	**SNP431-G-240819**	**SNP431-240828**
		Laboratory Sample ID	**YL2401115-001 YL2401117-001**	**YL2401169-010 YL2401171 -001**	**YL2401169-008**	**YL2401218-003 YL2401219 - 001**	**YL2401218-001**	**YL2401325-004 YL2401324-001**
Lithium	mg/L	0.0010	0.0372	0.0330	-	0.0335	-	0.0323
Manganese	mg/L	0.00010	0.00294	0.00251	-	0.00158	-	0.00132
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	-	< 0.0000050
Molybdenum	mg/L	0.000050	0.0170	0.0162	-	0.0171	-	0.0176
Nickel	mg/L	0.00050	0.00794	0.00864	-	0.00946	-	0.00959
Rubidium	mg/L	0.00020	0.0117	0.0121	-	0.0119	-	0.0113
Selenium	mg/L	0.000050	0.000335	0.000274	-	0.000366	-	0.000346
Silver	mg/L	0.000010	0.000028	0.000022	-	0.000027	-	0.000030
Strontium	mg/L	0.00020	4.32	3.93	-	4.30	-	4.27
Sulphur (as S)	mg/L	0.50	446	429	-	457	-	434
Thallium	mg/L	0.000010	0.000023	0.000027	-	0.000030	-	0.000027
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	-	< 0.00020 DLA	-	< 0.00020 DLA
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00060 DLA	-	< 0.00060 DLA	-	< 0.00060 DLA
Uranium	mg/L	0.000010	0.00252	0.00252	-	0.00238	-	0.00252
Vanadium	mg/L	0.00050	< 0.00100 DLA	< 0.00100 DLA	-	< 0.00100 DLA	-	< 0.00100 DLA
Zinc	mg/L	0.0010	< 0.0020 DLA	0.0038	-	0.0032	-	0.0033
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	-	< 0.00040 DLA	-	< 0.00040 DLA
Total Petroleum Hydrocarbons								
Benzene	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	-	< 0.00050
Toluene	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	-	< 0.00050
Ethylbenzene	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	-	< 0.00050
Xylene (m & p)	mg/L	0.00040	< 0.00040	< 0.00040	-	< 0.00040	-	< 0.00040
Xylene (o)	mg/L	0.00030	< 0.00030	< 0.00030	-	< 0.00030	-	< 0.00030
Xylenes Total	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	-	< 0.00050
PHC F1 (C6-C10)	mg/L	0.10	< 0.10	< 0.10	-	< 0.10	-	< 0.10
PHC F1 (C6-C10) - BTEX	mg/L	0.10	< 0.100	< 0.100	-	< 0.100	-	< 0.100
PHC F2 (C10-C16)	mg/L	0.10	< 0.10	< 0.10	-	< 0.10	-	< 0.10
PHC F3 (C16-C34)	mg/L	0.25	< 0.25	< 0.25	-	< 0.25	-	< 0.25
PHC F4 (C34-C50)	mg/L	0.25	< 0.25	< 0.25	-	< 0.25	-	< 0.25
Total Petroleum Hydrocarbons (C6-C50)	mg/L	0.38	< 0.38	< 0.38	-	< 0.38	-	< 0.38
Program-Specific Parameters								
Total Cyanide	mg/L	1.00	< 0.0050	< 0.0050	-	< 0.0050	-	< 0.0050
Sulphide	mg/L	0.0015	< 0.0015	-	-	-	-	-
Radium-226	Bq/L	0.005	<0.005	<0.005	-	<0.005	-	<0.005
Fecal Coliforms	CFU/100mL	1.00	< 1.0	-	-	-	-	-

Notes:

Results are draft and are subject to change pending completion of final quality assurance checks.

Recommended holding time for pH was exceeded for all samples.
(a) Field turbidity is an arithmetic mean of three readings.
(b) Sample results not received at time of reporting

Shaded Grey & Bold = Exceeded Field DQO

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table E: Water Quality Results for SNP Stations - Surface Water Monitoring Stations - August 2024

		Sample Location	**SNP 43-1**	**SNP 43-5**				
		Sample Date	**2024-08-28**	**2024-08-01**	**2024-08-06**	**2024-08-14**	**2024-08-19**	**2024-08-28**
		Sample Type	**Spigot**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP431-G-240828**	**SNP435-240801**	**SNP435-240806**	**SNP435-240814**	**SNP435-240819**	**SNP435-240828**
		Laboratory Sample ID	**YL2401325-002**	**YL2401075-003**	**YL2401115-009**	**YL2401192-008**	**YL2401218-007**	**YL2401325-008**
Parameter Name	**Unit**	**LOR**	**-**					
Field Parameters								
Water Velocity	m/s	<0.01 m/s	-	0.80	0.50	0.20	<0.01	0.10
Sample Depth	m	0.1 m	-	0.15	0.20	0.20	0.15	0.15
Water Depth	m	0.1 m	-	0.30	0.40	0.40	0.30	0.50
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	18.10	17.16	20.00	16.39	18.68	17.02
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	7.71	7.96	7.88	7.74	7.75	6.92
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	110.34	118.08	121.44	95.49	96.87	68.08
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	9.85	10.91	10.62	8.98	8.53	6.23
Oxygen Reduction Potential	mV	Range ± 1400 mV Resolution 0.1 mV Accuracy of ±2% of reading	-	-	-	-	-	-
Specific Conductivity	µS/cm	Range: 0 to 350,000 µS/cm Resolution of 0.1 µS/cm Accuracy of ±0.5% of reading + 1 µS/cm from 0 to 100,000 µS/cm	3390.10	3704.60	3679.00	3518.60	3393.20	3486.60

		Sample Location	**SNP 43-1**	**SNP 43-5**				
		Sample Date	**2024-08-28**	**2024-08-01**	**2024-08-06**	**2024-08-14**	**2024-08-19**	**2024-08-28**
		Sample Type	**Spigot**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP431-G-240828**	**SNP435-240801**	**SNP435-240806**	**SNP435-240814**	**SNP435-240819**	**SNP435-240828**
		Laboratory Sample ID	**YL2401325-002**	**YL2401075-003**	**YL2401115-009**	**YL2401192-008**	**YL2401218-007**	**YL2401325-008**
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	1.54	1.10	2.05	6.47	3.27	2.48
Data Quality Objectives		**Limit**						
pH	pH Units	1 pH Unit	-	0.20	0.10	0.00	0.07	1.03
Specific Conductivity	µS/cm	20% RPD	-	12.77%	8.47%	2.84%	0.69%	3.70%
Turbidity [(a)]	NTU	2 NTU	-	0.13	0.13	**3.39**	1.03	0.40
Conventional (Routine) Parameters								
pH	pH Units	0.10	-	7.76	7.78	7.74	7.82	7.95
Specific Conductivity	µS/cm	1.0	-	3260	3380	3420	3370	3360
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	-	1390	1540	1550	1440	1590
Total Alkalinity, as $CaCO_3$	mg/L	1.0	-	38.2	39.7	52	49.6	60.8
Total Dissolved Solids	mg/L	3.0	-	2810	2880	3580	2770	2890
Total Suspended Solids	mg/L	1.0	-	< 1.0	1.6	2.2	< 1.0	2.5
Turbidity	NTU	0.10	-	1.23	2.18	3.08	2.24	2.08
Major Ions								
Bicarbonate, as $CaCO_3$	mg/L	1.0	-	38.2	39.7	52.0	49.6	60.8
Calcium	mg/L	0.050	-	380	439	436	397	445
Carbonate, as $CaCO_3$	mg/L	1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloride	mg/L	0.50	-	477	481	493	488	478
Fluoride	mg/L	0.020	-	< 0.400 DLDS	< 0.400 DLDS	< 0.400 DLDS	< 0.400 DLDS	< 0.400 DLDS
Magnesium	mg/L	0.0050	-	108	108	112	108	117
Potassium	mg/L	0.050	-	12.8	12.7	13.0	13.4	12.9
Sodium	mg/L	0.050	-	190	186	191	193	207
Sulphate	mg/L	0.30	-	1170	1170	1220	1200	1170
Reactive silica	mg/L	0.50	-	0.77 SFT	0.52	< 0.50	< 0.50 SFT	0.57
Nutrients								
Nitrate, as N	mg/L	0.0050	-	< 0.100 DLDS	< 0.100 DLDS	< 0.100 DLDS	< 0.100 DLDS	< 0.100 DLDS
Nitrite, as N	mg/L	0.0010	-	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0200 DLDS
Total Ammonia, as N	mg/L	0.0050	< 0.0050	0.0124	0.0120	0.0102	0.0162	0.0150
Total Phosphorus (ICPMS), as P	mg/L	0.050	-	-	-	-	-	< 0.100 DLA
Total Phosphorus (Colourimetric), as P	mg/L	0.002	-	0.0155	0.0215	0.0191	0.0174	0.0078
Organic Carbon								
Total organic carbon	mg/L	0.50	-	7.99	6.93	8.38	7.02	8.68
Dissolved organic carbon	mg/L	0.50	-	9.43	8.21	9.41	7.99	7.67
Total Metals								
Aluminum	mg/L	0.0030	-	0.0131	0.0348	0.0833	0.0301	0.0360
Antimony	mg/L	0.00010	-	0.107	0.112	0.0809	0.0658	0.0749
Arsenic	mg/L	0.00010	-	0.171	0.160	0.109	0.100	0.0870
Barium	mg/L	0.00010	-	0.0477	0.0559	0.0895	0.0816	0.0969

		Sample Location	**SNP 43-1**	**SNP 43-5**				
		Sample Date	**2024-08-28**	**2024-08-01**	**2024-08-06**	**2024-08-14**	**2024-08-19**	**2024-08-28**
		Sample Type	**Spigot**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP431-G-240828**	**SNP435-240801**	**SNP435-240806**	**SNP435-240814**	**SNP435-240819**	**SNP435-240828**
		Laboratory Sample ID	**YL2401325-002**	**YL2401075-003**	**YL2401115-009**	**YL2401192-008**	**YL2401218-007**	**YL2401325-008**
Beryllium	mg/L	0.000100	-	< 0.000100	< 0.000100	< 0.000100 DLA	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	-	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA
Boron	mg/L	0.010	-	0.305	0.321	0.288	0.272	0.280
Cadmium	mg/L	0.0000050	-	0.0000393	< 0.0000400 DLM	0.0000792	0.0000382	0.0000575
Cesium	mg/L	0.000010	-	0.000172	0.000163	0.000091	0.000066	0.000064
Chromium (III+VI)	mg/L	0.00010	-	< 0.00020 DLA	< 0.00020 DLA	0.00026	< 0.00020 DLA	< 0.00020 DLA
Cobalt	mg/L	0.00010	-	0.00230	0.00242	0.00251	0.00228	0.00189
Copper	mg/L	0.00050	-	0.00440	0.00416	0.00484	0.00391	0.00389
Iron	mg/L	0.010	-	0.231	0.267	0.338	0.243	0.184
Lead	mg/L	0.000050	-	0.000137	0.000511	0.00114	0.000541	0.000448
Lithium	mg/L	0.0010	-	0.0323	0.0333	0.0321	0.0306	0.0310
Manganese	mg/L	0.00010	-	0.0540	0.0811	0.508	0.110	0.0994
Mercury	mg/L	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	-	0.0105	0.0108	0.00766	0.00581	0.00568
Nickel	mg/L	0.00050	-	0.00579	0.00585	0.0108	0.00830	0.00835
Rubidium	mg/L	0.00020	-	0.0112	0.0113	0.0132	0.0116	0.0125
Selenium	mg/L	0.000050	-	0.000226	0.000205	0.000210	0.000137	0.000197
Silver	mg/L	0.000010	-	0.000022	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA
Strontium	mg/L	0.00020	-	3.80	3.92	3.87	3.59	4.10
Sulphur (as S)	mg/L	0.50	-	469	416	435	468	421
Thallium	mg/L	0.000010	-	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA
Tin	mg/L	0.00010	-	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA
Titanium	mg/L	0.00030	-	< 0.00060 DLA	< 0.00150 DLM	< 0.00360 DLM	< 0.00150 DLM	< 0.00120 DLM
Uranium	mg/L	0.000010	-	0.00138	0.00135	0.00156	0.00145	0.00196
Vanadium	mg/L	0.00050	-	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA
Zinc	mg/L	0.0030	-	< 0.0060 DLA	< 0.0060 DLA	0.0148	0.0076	0.0089
Zirconium	mg/L	0.00020	-	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA
Dissolved Metals								
Aluminum	mg/L	0.0010	-	0.0031	0.0039	0.0046	0.0039	0.0032
Antimony	mg/L	0.00010	-	0.109	0.111	0.0776	0.0691	0.0717
Arsenic	mg/L	0.00010	-	0.141	0.127	0.0612	0.0670	0.0645
Barium	mg/L	0.00010	-	0.0492	0.0540	0.0898	0.0835	0.0977
Beryllium	mg/L	0.000100	-	< 0.000100 DLA	< 0.000100	< 0.000100	< 0.000100 DLA	< 0.000100
Bismuth	mg/L	0.000050	-	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA
Boron	mg/L	0.010	-	0.272	0.311	0.279	0.262	0.283
Cadmium	mg/L	0.0000050	-	0.0000311	0.0000394	0.0000848	0.0000478	0.0000443
Cesium	mg/L	0.000010	-	0.000178	0.000150	0.000077	0.000069	0.000054
Chromium (III+VI)	mg/L	0.00010	-	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA
Cobalt	mg/L	0.00010	-	0.00239	0.00243	0.00228	0.00227	0.00188
Copper	mg/L	0.00020	-	0.00409	0.00368	0.00378	0.00354	0.00367
Iron	mg/L	0.010	-	0.090	0.092	0.059	0.063	0.052
Lead	mg/L	0.000050	-	< 0.000100 DLA	0.000175	0.000200	0.000119	< 0.000100 DLA

		Sample Location	**SNP 43-1**	**SNP 43-5**				
		Sample Date	**2024-08-28**	**2024-08-01**	**2024-08-06**	**2024-08-14**	**2024-08-19**	**2024-08-28**
		Sample Type	**Spigot**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP431-G-240828**	**SNP435-240801**	**SNP435-240806**	**SNP435-240814**	**SNP435-240819**	**SNP435-240828**
		Laboratory Sample ID	**YL2401325-002**	**YL2401075-003**	**YL2401115-009**	**YL2401192-008**	**YL2401218-007**	**YL2401325-008**
Lithium	mg/L	0.0010	-	0.0304	0.0301	0.0315	0.0274	0.0300
Manganese	mg/L	0.00010	-	0.0540	0.0828	0.478	0.114	0.0963
Mercury	mg/L	0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	-	0.0113	0.0111	0.00762	0.00624	0.00546
Nickel	mg/L	0.00050	-	0.00605	0.00581	0.0103	0.00797	0.00822
Rubidium	mg/L	0.00020	-	0.0115	0.0119	0.0125	0.0122	0.0115
Selenium	mg/L	0.000050	-	0.000221	0.000146	0.000151	0.000172	0.000141
Silver	mg/L	0.000010	-	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA
Strontium	mg/L	0.00020	-	3.91	3.98	3.78	3.99	3.74
Sulphur (as S)	mg/L	0.50	-	441	446	450	433	409
Thallium	mg/L	0.000010	-	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA
Tin	mg/L	0.00010	-	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA
Titanium	mg/L	0.00030	-	< 0.00060 DLA	< 0.00060 DLA	< 0.00060 DLA	< 0.00060 DLA	< 0.00060 DLA
Uranium	mg/L	0.000010	-	0.00147	0.00140	0.00150	0.00130	0.00195
Vanadium	mg/L	0.00050	-	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA
Zinc	mg/L	0.0010	-	0.0064	0.0048	0.0137	0.0065	0.0076
Zirconium	mg/L	0.00020	-	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA
Total Petroleum Hydrocarbons								
Benzene	mg/L	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Toluene	mg/L	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Ethylbenzene	mg/L	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Xylene (m & p)	mg/L	0.00040	-	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040
Xylene (o)	mg/L	0.00030	-	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030
Xylenes Total	mg/L	0.00050	-	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
PHC F1 (C6-C10)	mg/L	0.10	-	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
PHC F1 (C6-C10) - BTEX	mg/L	0.10	-	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100
PHC F2 (C10-C16)	mg/L	0.10	-	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
PHC F3 (C16-C34)	mg/L	0.25	-	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
PHC F4 (C34-C50)	mg/L	0.25	-	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Total Petroleum Hydrocarbons (C6-C50)	mg/L	0.38	-	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Program-Specific Parameters								
Total Cyanide	mg/L	1.00	-	-	-	-	-	-
Sulphide	mg/L	0.0015	-	-	-	-	-	-
Radium-226	Bq/L	0.005	-	-	-	-	-	-
Fecal Coliforms	CFU/100mL	1.00	-	-	-	-	-	-

Notes:

Results are draft and are subject to change pending completion of final quality assurance checks.

Recommended holding time for pH was exceeded for all samples.
(a) Field turbidity is an arithmetic mean of three readings.
(b) Sample results not received at time of reporting
Shaded Grey & Bold = Exceeded Field DQO

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table E: Water Quality Results for SNP Stations - Surface Water Monitoring Stations - August 2024

		Sample Location	**SNP 43-11**	**SNP 43-12**	**SNP 43-16**	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-21A**
		Sample Date	**2024-08-06**	**2024-08-14**	**2024-08-14**	**2024-08-03**	**2024-08-06**	**2024-08-16**
		Sample Type	**Grab**	**Grab**	**Grab**	**Composite**	**Composite**	**Composite**
		Unique Sample Identifier	**SNP4311-240806**	**SNP4312-240814**	**SNP4316-240814**	**SNP4321A-240803**	**SNP4321A-240806**	**SNP4321A-240816**
		Laboratory Sample ID	**YL2401115-004 YL2401117-004**	**YL2401192-009**	**YL2401192-005**	**YL2401087-001**	**YL2401115-007**	**YL2401199-003**
Parameter Name	**Unit**	**LOR**						
Field Parameters								
Water Velocity	m/s	<0.01 m/s	<0.01	-	-	-	-	-
Sample Depth	m	0.1 m	0.30	0.30	0.20	-	-	-
Water Depth	m	0.1 m	0.60	0.90	0.40	-	-	-
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	21.69	17.50	15.78	10.29	11.75	11.86
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	8.63	8.34	8.10	7.28	7.64	7.68
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	123.58	102.48	76.07	96.17	101.97	98.07
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	10.59	9.57	7.30	10.33	10.65	10.18
Oxygen Reduction Potential	mV	Range ± 1400 mV Resolution 0.1 mV Accuracy of ±2% of reading	-	-	-	244.90	126.70	198.00
Specific Conductivity	µS/cm	Range: 0 to 350,000 µS/cm Resolution of 0.1 µS/cm Accuracy of ±0.5% of reading + 1 µS/cm from 0 to 100,000 µS/cm	184.37	148.33	773.02	3083.80	3067.70	3240.80

		Sample Location	SNP 43-11	SNP 43-12	SNP 43-16	SNP 43-21A	SNP 43-21A	SNP 43-21A
		Sample Date	2024-08-06	2024-08-14	2024-08-14	2024-08-03	2024-08-06	2024-08-16
		Sample Type	Grab	Grab	Grab	Composite	Composite	Composite
		Unique Sample Identifier	SNP4311-240806	SNP4312-240814	SNP4316-240814	SNP4321A-240803	SNP4321A-240806	SNP4321A-240816
		Laboratory Sample ID	YL2401115-004 YL2401117-004	YL2401192-009	YL2401192-005	YL2401087-001	YL2401115-007	YL2401199-003
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	1.23	3.62	1.72	1.10	1.28	1.48
Data Quality Objectives		**Limit**						
pH	pH Units	1 pH Unit	0.44	0.52	0.02	0.90	0.63	0.20
Specific Conductivity	µS/cm	20% RPD	2.48%	13.03%	1.57%	3.07%	2.33%	4.76%
Turbidity [(a)]	NTU	2 NTU	0.13	1.43	-	-	-	-
Conventional (Routine) Parameters								
pH	pH Units	0.10	8.19	7.82	8.08	8.18	8.27	7.88
Specific Conductivity	µS/cm	1.0	189	169	761	3180	3140	3090
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	87.4	61.7	285	1290	1390	1290
Total Alkalinity, as $CaCO_3$	mg/L	1.0	87.7	42.7	120	188	186	184
Total Dissolved Solids	mg/L	3.0	148	133	627	2500	2640	2140
Total Suspended Solids	mg/L	1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Turbidity	NTU	0.10	1.36	2.19	0.9	0.83	0.85	0.76
Major Ions								
Bicarbonate, as $CaCO_3$	mg/L	1.0	87.7	42.7	120	188	186	184
Calcium	mg/L	0.050	23.6	16.4	52.8	364	386	339
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloride	mg/L	0.50	3.81	9.54	88.8	473	482	486
Fluoride	mg/L	0.020	0.141	0.073	0.135	< 0.400 DLDS	< 0.400 DLDS	< 0.400 DLDS
Magnesium	mg/L	0.0050	6.92	5.04	37.3	93.3	104	107
Potassium	mg/L	0.050	1.70	1.28	5.02	11.9	11.5	11.7
Sodium	mg/L	0.050	4.42	5.77	41.8	185	189	178
Sulphate	mg/L	0.30	2.82	23.8	128	781	837	868
Reactive silica	mg/L	0.50	1.13	1.05	2.90	11.4	11.5	11.5
Nutrients								
Nitrate, as N	mg/L	0.0050	0.0827	< 0.0050	< 0.0250 DLDS	0.424	0.492	0.563
Nitrite, as N	mg/L	0.0010	0.0027	< 0.0010	< 0.0050 DLDS	0.0282	0.0322	0.0362
Total Ammonia, as N	mg/L	0.0050	0.0598	0.0070	0.0282	0.768	0.707	0.760
Total Phosphorus (ICPMS), as P	mg/L	0.050	-	-	-	< 1.00 DLA	< 0.500 DLA	< 0.500 DLA
Total Phosphorus (Colourimetric), as P	mg/L	0.002	0.0377	0.0088	0.0733	-	-	-
Organic Carbon								
Total organic carbon	mg/L	0.50	15.8	5.22	30.3	7.33	7.07 RRV	7.49
Dissolved organic carbon	mg/L	0.50	15.6	5.97	30.5	8.63	9.09 RRV	7.42
Total Metals								
Aluminum	mg/L	0.0030	0.0079	0.0946	0.0105	< 0.0600 DLA	< 0.0300 DLA	< 0.0300 DLA
Antimony	mg/L	0.00010	0.00081	0.00191	0.00348	0.690	0.661	0.657
Arsenic	mg/L	0.00010	0.0424	0.0121	0.182	24.3	22.3	21.5
Barium	mg/L	0.00010	0.0178	0.0181	0.0448	0.0498	0.0505	0.0486

		Sample Location	**SNP 43-11**	**SNP 43-12**	**SNP 43-16**	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-21A**
		Sample Date	**2024-08-06**	**2024-08-14**	**2024-08-14**	**2024-08-03**	**2024-08-06**	**2024-08-16**
		Sample Type	**Grab**	**Grab**	**Grab**	**Composite**	**Composite**	**Composite**
		Unique Sample Identifier	**SNP4311-240806**	**SNP4312-240814**	**SNP4316-240814**	**SNP4321A-240803**	**SNP4321A-240806**	**SNP4321A-240816**
		Laboratory Sample ID	**YL2401115-004 YL2401117-004**	**YL2401192-009**	**YL2401192-005**	**YL2401087-001**	**YL2401115-007**	**YL2401199-003**
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000400 DLA	< 0.000200 DLA	< 0.000200 DLA
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.00100 DLA	< 0.000500 DLA	< 0.000500 DLA
Boron	mg/L	0.010	< 0.010	0.012	0.022	0.312	0.353	0.343
Cadmium	mg/L	0.0000050	< 0.0000050	0.0000077	< 0.0000050	0.000397	0.000292	0.000278
Cesium	mg/L	0.000010	0.000015	0.000016	< 0.000010	0.000693	0.000662	0.000729
Chromium (III+VI)	mg/L	0.00010	< 0.00010	0.00020	0.00014	< 0.00200 DLA	< 0.00100 DLA	< 0.00100 DLA
Cobalt	mg/L	0.00010	0.00013	0.00012	0.00064	0.0418	0.0393	0.0391
Copper	mg/L	0.00050	< 0.00050	0.00188	< 0.00050	< 0.0100 DLA	< 0.00500 DLA	< 0.00500 DLA
Iron	mg/L	0.010	0.095	0.102	0.257	0.281	0.254	0.293
Lead	mg/L	0.000050	< 0.000050	0.000245	0.000052	0.00383	0.00358	0.00382
Lithium	mg/L	0.0010	0.0031	0.0027	0.0142	0.0350	0.0321	0.0336
Manganese	mg/L	0.00010	0.485	0.00770	0.0718	0.556	0.519	0.536
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.00108	0.000380	0.000471	0.0169	0.0176	0.0177
Nickel	mg/L	0.00050	< 0.00050	0.00078	0.00178	0.0474	0.0425	0.0445
Rubidium	mg/L	0.00020	0.00461	0.00216	0.00434	0.0101	0.00910	0.0108
Selenium	mg/L	0.000050	< 0.000050	0.000083	0.000127	< 0.00100 DLA	< 0.000500 DLA	< 0.000500 DLA
Silver	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000200 DLA	< 0.000100 DLA	< 0.000100 DLA
Strontium	mg/L	0.00020	0.0819	0.0968	0.236	4.35	4.56	4.58
Sulphur (as S)	mg/L	0.50	1.34	7.94	45.3	305	298	309
Thallium	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000200 DLA	< 0.000100 DLA	< 0.000100 DLA
Tin	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00200 DLA	< 0.00100 DLA	< 0.00100 DLA
Titanium	mg/L	0.00030	< 0.00030	0.00247	0.00063	< 0.00600 DLA	< 0.00300 DLA	< 0.00300 DLA
Uranium	mg/L	0.000010	0.000495	0.000282	0.000884	0.00538	0.00569	0.00599
Vanadium	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0100 DLA	< 0.00500 DLA	< 0.00500 DLA
Zinc	mg/L	0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0600 DLA	0.0458	0.0534
Zirconium	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00400 DLA	< 0.00200 DLA	< 0.00200 DLA
Dissolved Metals								
Aluminum	mg/L	0.0010	0.0035	0.0206	0.0042	< 0.0200 DLA	< 0.0200 DLA	< 0.0100 DLA
Antimony	mg/L	0.00010	0.00078	0.00158	0.00332	0.656	0.630	0.608
Arsenic	mg/L	0.00010	0.0395	0.00958	0.158	22.8	22.7	22.2
Barium	mg/L	0.00010	0.0144	0.0169	0.0435	0.0496	0.0459	0.0498
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.00200 DLA	< 0.000400 DLA	< 0.000200 DLA
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.00100 DLA	< 0.00100 DLA	< 0.000500 DLA
Boron	mg/L	0.010	< 0.010	0.011	0.022	0.375	0.330	0.274
Cadmium	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	0.000248	0.000183	0.000202
Cesium	mg/L	0.000010	0.000015	< 0.000010	< 0.000010	0.000840	0.000644	0.000667
Chromium (III+VI)	mg/L	0.00010	< 0.00010	< 0.00010	0.00014	< 0.00200 DLA	< 0.00200 DLA	< 0.00100 DLA
Cobalt	mg/L	0.00010	0.00011	< 0.00010	0.00059	0.0384	0.0394	0.0390
Copper	mg/L	0.00020	0.00040	0.00135	0.00037	< 0.00400 DLA	< 0.00400 DLA	0.00203
Iron	mg/L	0.010	0.055	0.011	0.165	< 0.200 DLA	< 0.200 DLA	0.165
Lead	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	0.00292	0.00344	0.00333

		Sample Location	**SNP 43-11**	**SNP 43-12**	**SNP 43-16**	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-21A**
		Sample Date	**2024-08-06**	**2024-08-14**	**2024-08-14**	**2024-08-03**	**2024-08-06**	**2024-08-16**
		Sample Type	**Grab**	**Grab**	**Grab**	**Composite**	**Composite**	**Composite**
		Unique Sample Identifier	**SNP4311-240806**	**SNP4312-240814**	**SNP4316-240814**	**SNP4321A-240803**	**SNP4321A-240806**	**SNP4321A-240816**
		Laboratory Sample ID	**YL2401115-004 YL2401117-004**	**YL2401192-009**	**YL2401192-005**	**YL2401087-001**	**YL2401115-007**	**YL2401199-003**
Lithium	mg/L	0.0010	0.0034	0.0027	0.0146	0.0323	0.0299	0.0296
Manganese	mg/L	0.00010	0.399	0.00171	0.0625	0.514	0.533	0.515
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.00105	0.000352	0.000441	0.0172	0.0182	0.0169
Nickel	mg/L	0.00050	< 0.00050	0.00062	0.00166	0.0419	0.0429	0.0431
Rubidium	mg/L	0.00020	0.00444	0.00194	0.00398	0.00961	0.0112	0.0100
Selenium	mg/L	0.000050	< 0.000050	0.000051	0.000139	< 0.00100 DLA	< 0.00100 DLA	< 0.000500 DLA
Silver	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000200 DLA	< 0.000200 DLA	< 0.000100 DLA
Strontium	mg/L	0.00020	0.0820	0.0904	0.235	4.30	4.68	4.13
Sulphur (as S)	mg/L	0.50	1.38	7.38	43.6	282	288	297
Thallium	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000200 DLA	< 0.000200 DLA	< 0.000100 DLA
Tin	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00200 DLA	< 0.00200 DLA	< 0.00100 DLA
Titanium	mg/L	0.00030	< 0.00030	< 0.00030	0.00032	< 0.00600 DLA	< 0.00600 DLA	< 0.00300 DLA
Uranium	mg/L	0.000010	0.000468	0.000267	0.000925	0.00528	0.00565	0.00574
Vanadium	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.0100 DLA	< 0.0100 DLA	< 0.00500 DLA
Zinc	mg/L	0.0010	< 0.0010	< 0.0010	0.0020	0.0508	0.0478	0.0508
Zirconium	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00400 DLA	< 0.00400 DLA	< 0.00200 DLA
Total Petroleum Hydrocarbons								
Benzene	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050	< 0.00050
Toluene	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050	< 0.00050
Ethylbenzene	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050	< 0.00050
Xylene (m & p)	mg/L	0.00040	< 0.00040	< 0.00040	-	< 0.00040	< 0.00040	< 0.00040
Xylene (o)	mg/L	0.00030	< 0.00030	< 0.00030	-	< 0.00030	< 0.00030	< 0.00030
Xylenes Total	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050	< 0.00050
PHC F1 (C6-C10)	mg/L	0.10	< 0.10	< 0.10	-	< 0.10	< 0.10	< 0.10
PHC F1 (C6-C10) - BTEX	mg/L	0.10	< 0.100	< 0.100	-	< 0.100	< 0.100	< 0.100
PHC F2 (C10-C16)	mg/L	0.10	< 0.10	< 0.10	-	< 0.10	< 0.10	< 0.10
PHC F3 (C16-C34)	mg/L	0.25	< 0.25	< 0.25	-	< 0.25	< 0.25	< 0.25
PHC F4 (C34-C50)	mg/L	0.25	< 0.25	< 0.25	-	< 0.25	< 0.25	< 0.25
Total Petroleum Hydrocarbons (C6-C50)	mg/L	0.38	< 0.38	< 0.38	-	< 0.38	< 0.38	< 0.38
Program-Specific Parameters								
Total Cyanide	mg/L	1.00	-	-	-	-	-	-
Sulphide	mg/L	0.0015	-	-	-	-	-	-
Radium-226	Bq/L	0.005	<0.005	-	-	-	-	-
Fecal Coliforms	CFU/100mL	1.00	-	-	-	< 1.0	< 1.0	< 1.0

Notes:

Results are draft and are subject to change pending completion of final quality assurance checks.

Recommended holding time for pH was exceeded for all samples.
(a) Field turbidity is an arithmetic mean of three readings.
(b) Sample results not received at time of reporting

Shaded Grey & Bold = Exceeded Field DQO

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table E: Water Quality Results for SNP Stations - Surface Water Monitoring Stations - August 2024

		Sample Location	**SNP 43-21A**	**SNP 43-23**				
		Sample Date	**2024-08-28**	**2024-08-01**	**2024-08-06**	**2024-08-14**	**2024-08-19**	**2024-08-28**
		Sample Type	**Composite**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4321A-240828**	**SNP4323-240801**	**SNP4323-240806**	**SNP4323-240814**	**SNP4323-240819**	**SNP4323-240828**
		Laboratory Sample ID	**YL2401325-006**	**YL2401075-002**	**YL2401115-008**	**YL2401192-007**	**YL2401218-005**	**YL2401325-007**
Parameter Name	**Unit**	**LOR**						
Field Parameters								
Water Velocity	m/s	<0.01 m/s	-	<0.01	<0.01	<0.01	<0.01	<0.01
Sample Depth	m	0.1 m	-	0.30	0.30	0.20	0.15	0.15
Water Depth	m	0.1 m	-	0.65	0.50	0.50	0.30	0.30
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	11.01	17.02	20.12	15.47	18.62	18.25
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	7.70	7.74	7.40	8.03	7.86	6.68
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	98.46	123.55	120.05	95.05	113.97	95.59
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	10.24	11.44	10.51	9.12	10.06	8.51
Oxygen Reduction Potential	mV	Range ± 1400 mV Resolution 0.1 mV Accuracy of ±2% of reading	223.10	-	-	-	-	-
Specific Conductivity	µS/cm	Range: 0 to 350,000 µS/cm Resolution of 0.1 µS/cm Accuracy of ±0.5% of reading + 1 µS/cm from 0 to 100,000 µS/cm	2881.50	3721.20	3700.80	3434.20	3430.30	3417.10

		Sample Location	**SNP 43-21A**	**SNP 43-23**				
		Sample Date	**2024-08-28**	**2024-08-01**	**2024-08-06**	**2024-08-14**	**2024-08-19**	**2024-08-28**
		Sample Type	**Composite**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4321A-240828**	**SNP4323-240801**	**SNP4323-240806**	**SNP4323-240814**	**SNP4323-240819**	**SNP4323-240828**
		Laboratory Sample ID	**YL2401325-006**	**YL2401075-002**	**YL2401115-008**	**YL2401192-007**	**YL2401218-005**	**YL2401325-007**
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	1.66	1.84	5.21	28.70	15.70	13.19
Data Quality Objectives		**Limit**						
pH	pH Units	1 pH Unit	0.31	0.03	0.37	0.33	0.01	**1.35**
Specific Conductivity	µS/cm	20% RPD	2.35%	13.21%	8.77%	3.99%	0.30%	4.40%
Turbidity [(a)]	NTU	2 NTU	-	0.45	**2.04**	**19.68**	**8.55**	**5.67**
Conventional (Routine) Parameters								
pH	pH Units	0.10	8.01	7.77	7.77	7.7	7.85	8.03
Specific Conductivity	µS/cm	1.0	2950	3260	3390	3300	3420	3270
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	1330	1420	1520	1420	1500	1530
Total Alkalinity, as $CaCO_3$	mg/L	1.0	185	38.5	40.5	53.4	55	73.9
Total Dissolved Solids	mg/L	3.0	2410	2790	2870	3420	2800	2690
Total Suspended Solids	mg/L	1.0	1.1	< 1.0	1.8	10	8.5	6.3
Turbidity	NTU	0.10	1.16	1.39	3.17	9.02	7.15	7.52
Major Ions								
Bicarbonate, as $CaCO_3$	mg/L	1.0	185	38.5	40.5	53.4	55.0	73.9
Calcium	mg/L	0.050	358	391	423	389	424	429
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloride	mg/L	0.50	476	479	483	479	508	466
Fluoride	mg/L	0.020	< 0.400 DLDS	< 0.400 DLDS	< 0.400 DLDS	< 0.400 DLDS	< 0.400 DLDS	< 0.400 DLDS
Magnesium	mg/L	0.0050	105	109	112	108	108	111
Potassium	mg/L	0.050	11.2	12.8	13.1	12.6	13.4	12.7
Sodium	mg/L	0.050	194	189	193	181	196	204
Sulphate	mg/L	0.30	830	1180	1170	1180	1250	1140
Reactive silica	mg/L	0.50	12.1	0.81 SFT	0.54	< 0.50	< 0.50 SFT	0.58 SFT
Nutrients								
Nitrate, as N	mg/L	0.0050	0.488	< 0.100 DLDS	< 0.100 DLDS	< 0.100 DLDS	< 0.100 DLDS	< 0.100 DLDS
Nitrite, as N	mg/L	0.0010	0.0293	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0200 DLDS
Total Ammonia, as N	mg/L	0.0050	0.788	0.0121	0.0118	0.0399	0.0119	0.0128
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 0.500 DLA	-	-	-	-	< 0.100 DLA
Total Phosphorus (Colourimetric), as P	mg/L	0.002	-	0.0159	0.0216	0.0388	0.0264	0.0262
Organic Carbon								
Total organic carbon	mg/L	0.50	7.14	6.98 RRV	7.26	7.92	7.84	8.24
Dissolved organic carbon	mg/L	0.50	7.23	8.12 RRV	7.75	8.95	9.06	9.37
Total Metals								
Aluminum	mg/L	0.0030	< 0.0300 DLA	0.0220	0.0888	0.391	0.169	0.257
Antimony	mg/L	0.00010	0.706	0.111	0.123	0.0874	0.0801	0.0909
Arsenic	mg/L	0.00010	24.3	0.188	0.186	0.155	0.137	0.139
Barium	mg/L	0.00010	0.0470	0.0502	0.0564	0.103	0.0876	0.108

		Sample Location	**SNP 43-21A**	**SNP 43-23**				
		Sample Date	**2024-08-28**	**2024-08-01**	**2024-08-06**	**2024-08-14**	**2024-08-19**	**2024-08-28**
		Sample Type	**Composite**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4321A-240828**	**SNP4323-240801**	**SNP4323-240806**	**SNP4323-240814**	**SNP4323-240819**	**SNP4323-240828**
		Laboratory Sample ID	**YL2401325-006**	**YL2401075-002**	**YL2401115-008**	**YL2401192-007**	**YL2401218-005**	**YL2401325-007**
Beryllium	mg/L	0.000100	< 0.000200 DLA	< 0.000100	< 0.000100	< 0.000100 DLA	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000500 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA
Boron	mg/L	0.010	0.331	0.315	0.321	0.277	0.279	0.266
Cadmium	mg/L	0.0000050	0.000295	0.0000335	< 0.0000450 DLM	0.0000490	0.0000396	0.0000314
Cesium	mg/L	0.000010	0.000728	0.000187	0.000176	0.000112	0.000076	0.000067
Chromium (III+VI)	mg/L	0.00010	< 0.00100 DLA	< 0.00020 DLA	0.00022	0.00061	0.00026	0.00041
Cobalt	mg/L	0.00010	0.0376	0.00245	0.00265	0.00398	0.00224	0.00230
Copper	mg/L	0.00050	< 0.00500 DLA	0.00466	0.00479	0.00810	0.00613	0.00562
Iron	mg/L	0.010	0.240	0.242	0.332	0.853	0.486	0.524
Lead	mg/L	0.000050	0.00374	0.000142	0.00161	0.00368	0.00251	0.00246
Lithium	mg/L	0.0010	0.0330	0.0332	0.0346	0.0320	0.0306	0.0298
Manganese	mg/L	0.00010	0.511	0.0596	0.0920	1.18	0.377	0.569
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.0183	0.0110	0.0111	0.00770	0.00692	0.00610
Nickel	mg/L	0.00050	0.0445	0.00603	0.00619	0.0134	0.0101	0.0119
Rubidium	mg/L	0.00020	0.0114	0.0115	0.0118	0.0132	0.0125	0.0119
Selenium	mg/L	0.000050	< 0.000500 DLA	0.000321	0.000275	0.000192	0.000230	< 0.000100 DLA
Silver	mg/L	0.000010	< 0.000100 DLA	0.000022	0.000023	0.000041	< 0.000020 DLA	0.000036
Strontium	mg/L	0.00020	4.93	3.97	4.00	3.69	3.92	3.95
Sulphur (as S)	mg/L	0.50	291	482	420	401	480	424
Thallium	mg/L	0.000010	< 0.000100 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA
Tin	mg/L	0.00010	< 0.00100 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA
Titanium	mg/L	0.00030	< 0.00300 DLA	< 0.00090 DLM	< 0.00390 DLM	0.0161	0.00927 DLM	< 0.0108 DLM
Uranium	mg/L	0.000010	0.00603	0.00148	0.00140	0.00162	0.00186	0.00243
Vanadium	mg/L	0.00050	< 0.00500 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA
Zinc	mg/L	0.0030	0.0509	< 0.0060 DLA	0.0062	0.0148	0.0084	0.0086
Zirconium	mg/L	0.00020	< 0.00200 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA
Dissolved Metals								
Aluminum	mg/L	0.0010	< 0.0100 DLA	0.0036	0.0043	0.0042	0.0052	0.0048
Antimony	mg/L	0.00010	0.660	0.111	0.119	0.0823	0.0824	0.0914
Arsenic	mg/L	0.00010	24.6	0.146	0.152	0.0671	0.0779	0.0818
Barium	mg/L	0.00010	0.0498	0.0483	0.0520	0.0946	0.0916	0.114
Beryllium	mg/L	0.000100	< 0.000200 DLA	< 0.000100 DLA	< 0.000100	< 0.000100	< 0.000100 DLA	< 0.000100
Bismuth	mg/L	0.000050	< 0.000500 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA
Boron	mg/L	0.010	0.328	0.283	0.277	0.240	0.268	0.270
Cadmium	mg/L	0.0000050	0.000248	0.0000225	0.0000299	0.0000222	0.0000298	0.0000245
Cesium	mg/L	0.000010	0.000692	0.000184	0.000156	0.000057	0.000057	0.000033
Chromium (III+VI)	mg/L	0.00010	< 0.00100 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA
Cobalt	mg/L	0.00010	0.0387	0.00241	0.00260	0.00329	0.00204	0.00206
Copper	mg/L	0.00020	0.00204	0.00398	0.00332	0.00216	0.00352	0.00331
Iron	mg/L	0.010	0.162	0.076	0.092	0.049	0.043	0.033
Lead	mg/L	0.000050	0.00327	< 0.000100 DLA	0.000451	0.000241	0.000283	0.000214

		Sample Location	**SNP 43-21A**	**SNP 43-23**				
		Sample Date	**2024-08-28**	**2024-08-01**	**2024-08-06**	**2024-08-14**	**2024-08-19**	**2024-08-28**
		Sample Type	**Composite**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4321A-240828**	**SNP4323-240801**	**SNP4323-240806**	**SNP4323-240814**	**SNP4323-240819**	**SNP4323-240828**
		Laboratory Sample ID	**YL2401325-006**	**YL2401075-002**	**YL2401115-008**	**YL2401192-007**	**YL2401218-005**	**YL2401325-007**
Lithium	mg/L	0.0010	0.0320	0.0314	0.0294	0.0274	0.0285	0.0285
Manganese	mg/L	0.00010	0.518	0.0557	0.0927	1.16	0.385	0.568
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.0182	0.0113	0.0115	0.00749	0.00719	0.00613
Nickel	mg/L	0.00050	0.0427	0.00608	0.00617	0.0118	0.00929	0.0109
Rubidium	mg/L	0.00020	0.0110	0.0116	0.0123	0.0118	0.0121	0.0109
Selenium	mg/L	0.000050	< 0.000500 DLA	0.000215	0.000230	0.000168	0.000164	0.000199 DTSE
Silver	mg/L	0.000010	< 0.000100 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA
Strontium	mg/L	0.00020	4.39	3.87	4.16	3.61	4.08	3.66
Sulphur (as S)	mg/L	0.50	279	443	444	427	430	414
Thallium	mg/L	0.000010	< 0.000100 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA
Tin	mg/L	0.00010	< 0.00100 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA
Titanium	mg/L	0.00030	< 0.00300 DLA	< 0.00060 DLA	< 0.00060 DLA	< 0.00060 DLA	< 0.00060 DLA	< 0.00060 DLA
Uranium	mg/L	0.000010	0.00610	0.00144	0.00143	0.00156	0.00156	0.00242
Vanadium	mg/L	0.00050	< 0.00500 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA
Zinc	mg/L	0.0010	0.0545	0.0033	0.0049	0.0084	0.0048	0.0063
Zirconium	mg/L	0.00020	< 0.00200 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA
Total Petroleum Hydrocarbons								
Benzene	mg/L	0.00050	< 0.00050	-	-	-	-	-
Toluene	mg/L	0.00050	< 0.00050	-	-	-	-	-
Ethylbenzene	mg/L	0.00050	< 0.00050	-	-	-	-	-
Xylene (m & p)	mg/L	0.00040	< 0.00040	-	-	-	-	-
Xylene (o)	mg/L	0.00030	< 0.00030	-	-	-	-	-
Xylenes Total	mg/L	0.00050	< 0.00050	-	-	-	-	-
PHC F1 (C6-C10)	mg/L	0.10	< 0.10	-	-	-	-	-
PHC F1 (C6-C10) - BTEX	mg/L	0.10	< 0.100	-	-	-	-	-
PHC F2 (C10-C16)	mg/L	0.10	< 0.10	-	-	-	-	-
PHC F3 (C16-C34)	mg/L	0.25	< 0.25	-	-	-	-	-
PHC F4 (C34-C50)	mg/L	0.25	< 0.25	-	-	-	-	-
Total Petroleum Hydrocarbons (C6-C50)	mg/L	0.38	< 0.38	-	-	-	-	-
Program-Specific Parameters								
Total Cyanide	mg/L	1.00	-	-	-	-	-	-
Sulphide	mg/L	0.0015	-	-	-	-	-	-
Radium-226	Bq/L	0.005	-	-	-	-	-	-
Fecal Coliforms	CFU/100mL	1.00	< 1.0	-	-	-	-	-

Notes:

Results are draft and are subject to change pending completion of final quality assurance checks.

Recommended holding time for pH was exceeded for all samples.
(a) Field turbidity is an arithmetic mean of three readings.
(b) Sample results not received at time of reporting
Shaded Grey & Bold = Exceeded Field DQO

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Table E: Water Quality Results for SNP Stations - Surface Water Monitoring Stations - August 2024

		Sample Location	**SNP 43-29**	**SNP 43-30**	**SNP 43-31**	**SNP 43-32**
		Sample Date	**2024-08-14**	**2024-08-14**	**2024-08-14**	**2024-08-14**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4329-240814**	**SNP4330-240814**	**SNP4331-240814**	**SNP4332-240814**
		Laboratory Sample ID	**YL2401192-006**	**YL2401192-001**	**YL2401192-002**	**YL2401192-004**
Parameter Name	**Unit**	**LOR**				
Field Parameters						
Water Velocity	m/s	<0.01 m/s	-	-	-	-
Sample Depth	m	0.1 m	0.30	0.30	0.20	0.30
Water Depth	m	0.1 m	0.70	0.65	0.40	0.60
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	16.08	16.99	16.76	16.16
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	7.99	8.02	8.56	8.23
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	102.30	101.89	120.20	105.17
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	9.70	9.47	11.24	9.89
Oxygen Reduction Potential	mV	Range ± 1400 mV Resolution 0.1 mV Accuracy of ±2% of reading	-	-	-	-
Specific Conductivity	µS/cm	Range: 0 to 350,000 µS/cm Resolution of 0.1 µS/cm Accuracy of ±0.5% of reading + 1 µS/cm from 0 to 100,000 µS/cm	2401.20	1820.90	1686.60	4042.30

		Sample Location	**SNP 43-29**	**SNP 43-30**	**SNP 43-31**	**SNP 43-32**
		Sample Date	**2024-08-14**	**2024-08-14**	**2024-08-14**	**2024-08-14**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4329-240814**	**SNP4330-240814**	**SNP4331-240814**	**SNP4332-240814**
		Laboratory Sample ID	**YL2401192-006**	**YL2401192-001**	**YL2401192-002**	**YL2401192-004**
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	0.71	1.15	2.07	2.33
Data Quality Objectives		**Limit**				
pH	pH Units	1 pH Unit	0.25	0.25	0.40	0.14
Specific Conductivity	µS/cm	20% RPD	3.01%	3.40%	2.19%	3.35%
Turbidity [(a)]	NTU	2 NTU	-	-	-	-
Conventional (Routine) Parameters						
pH	pH Units	0.10	8.24	8.27	8.16	8.09
Specific Conductivity	µS/cm	1.0	2330	1760	1650	4180
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	1280	854	924	2130
Total Alkalinity, as $CaCO_3$	mg/L	1.0	173	140	76.3	97.6
Total Dissolved Solids	mg/L	3.0	2460	1720	1760	4560
Total Suspended Solids	mg/L	1.0	< 1.0	< 1.0	< 1.0	3.7
Turbidity	NTU	0.10	0.43	0.57	1.01	1.98
Major Ions						
Bicarbonate, as $CaCO_3$	mg/L	1.0	173	140	76.3	97.6
Calcium	mg/L	0.050	283	195	262	587
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloride	mg/L	0.50	105	128	< 5.00 DLDS	549
Fluoride	mg/L	0.020	< 0.400 DLDS	< 0.200 DLDS	< 0.200 DLDS	< 0.400 DLDS
Magnesium	mg/L	0.0050	139	89.2	65.5	161
Potassium	mg/L	0.050	9.46	11.6	5.87	21.5
Sodium	mg/L	0.050	75.8	68.1	10.7	205
Sulphate	mg/L	0.30	1120	693	948	1720
Reactive silica	mg/L	0.50	8.76	16.0	7.10	6.28
Nutrients						
Nitrate, as N	mg/L	0.0050	0.515	< 0.0500 DLDS	< 0.0500 DLDS	< 0.100 DLDS
Nitrite, as N	mg/L	0.0010	< 0.0200 DLDS	< 0.0100 DLDS	< 0.0100 DLDS	< 0.0200 DLDS
Total Ammonia, as N	mg/L	0.0050	0.0219	0.0236	0.0196	0.0419
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 0.100 DLA	< 0.050	< 0.250 DLA	< 0.100 DLA
Total Phosphorus (Colourimetric), as P	mg/L	0.002	-	-	-	-
Organic Carbon						
Total organic carbon	mg/L	0.50	7.14	12.5	14.2	13.2
Dissolved organic carbon	mg/L	0.50	7.73	13.0	14.5	14.2
Total Metals						
Aluminum	mg/L	0.0030	< 0.0060 DLA	0.0030	< 0.0150 DLA	0.0099
Antimony	mg/L	0.00010	0.119	0.0335	0.156	0.533
Arsenic	mg/L	0.00010	3.69	0.534	5.97	2.53
Barium	mg/L	0.00010	0.0285	0.0265	0.0192	0.0442

		Sample Location	**SNP 43-29**	**SNP 43-30**	**SNP 43-31**	**SNP 43-32**
		Sample Date	**2024-08-14**	**2024-08-14**	**2024-08-14**	**2024-08-14**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4329-240814**	**SNP4330-240814**	**SNP4331-240814**	**SNP4332-240814**
		Laboratory Sample ID	**YL2401192-006**	**YL2401192-001**	**YL2401192-002**	**YL2401192-004**
Beryllium	mg/L	0.000100	< 0.000100 DLA	< 0.000100	< 0.000100	< 0.000100 DLA
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000050	< 0.000250 DLA	< 0.000100 DLA
Boron	mg/L	0.010	0.178	0.180	0.060	0.348
Cadmium	mg/L	0.0000050	0.0000420	0.0000092	< 0.0000250 DLA	0.000204
Cesium	mg/L	0.000010	0.000040	0.000011	< 0.000050 DLA	0.000110
Chromium (III+VI)	mg/L	0.00010	< 0.00020 DLA	< 0.00010	< 0.00050 DLA	< 0.00020 DLA
Cobalt	mg/L	0.00010	0.00931	0.00288	0.00106	0.00646
Copper	mg/L	0.00050	0.0211	0.00489	0.00544	0.0222
Iron	mg/L	0.010	< 0.020 DLA	0.077	0.148	0.097
Lead	mg/L	0.000050	< 0.000100 DLA	< 0.000050	0.000324	0.000266
Lithium	mg/L	0.0010	0.0293	0.0324	0.0110	0.0180
Manganese	mg/L	0.00010	0.0175	0.113	0.0237	0.0860
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.0208	0.00511	0.00271	0.0232
Nickel	mg/L	0.00050	0.0114	0.00800	0.0195	0.0322
Rubidium	mg/L	0.00020	0.00502	0.00445	0.00342	0.00863
Selenium	mg/L	0.000050	0.000860	0.000234	0.000410	0.00101
Silver	mg/L	0.000010	< 0.000020 DLA	< 0.000010	< 0.000050 DLA	0.000126
Strontium	mg/L	0.00020	1.10	1.01	0.465	3.41
Sulphur (as S)	mg/L	0.50	398	235	326	621
Thallium	mg/L	0.000010	< 0.000020 DLA	< 0.000010	< 0.000050 DLA	0.000050
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00010	< 0.00050 DLA	< 0.00020 DLA
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00030	< 0.00150 DLA	< 0.00180 DLM
Uranium	mg/L	0.000010	0.00799	0.00329	0.00195	0.00356
Vanadium	mg/L	0.00050	0.00180	< 0.00050	< 0.00250 DLA	< 0.00100 DLA
Zinc	mg/L	0.0030	0.0180	< 0.0030	< 0.0150 DLA	0.0261
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00020	< 0.00100 DLA	< 0.00040 DLA
Dissolved Metals						
Aluminum	mg/L	0.0010	0.0049	0.0015	< 0.0050	0.0051
Antimony	mg/L	0.00010	0.109	0.0318	0.148	0.514
Arsenic	mg/L	0.00010	3.67	0.507	5.68	2.36
Barium	mg/L	0.00010	0.0282	0.0250	0.0177	0.0430
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000050	< 0.000250	< 0.000100 DLA
Boron	mg/L	0.010	0.175	0.191	0.056	0.342
Cadmium	mg/L	0.0000050	0.0000485	0.0000055	< 0.0000250	0.000199
Cesium	mg/L	0.000010	0.000038	0.000011	< 0.000050	0.000104
Chromium (III+VI)	mg/L	0.00010	< 0.00020 DLA	< 0.00010	< 0.00050	< 0.00020 DLA
Cobalt	mg/L	0.00010	0.00883	0.00278	0.00099	0.00602
Copper	mg/L	0.00020	0.0208	0.00456	0.00500	0.0202
Iron	mg/L	0.010	0.021	0.041	0.091	0.029
Lead	mg/L	0.000050	< 0.000100 DLA	< 0.000050	< 0.000250	< 0.000100 DLA

		Sample Location	**SNP 43-29**	**SNP 43-30**	**SNP 43-31**	**SNP 43-32**
		Sample Date	**2024-08-14**	**2024-08-14**	**2024-08-14**	**2024-08-14**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4329-240814**	**SNP4330-240814**	**SNP4331-240814**	**SNP4332-240814**
		Laboratory Sample ID	**YL2401192-006**	**YL2401192-001**	**YL2401192-002**	**YL2401192-004**
Lithium	mg/L	0.0010	0.0287	0.0328	0.0108	0.0171
Manganese	mg/L	0.00010	0.0178	0.106	0.0124	0.0781
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.0198	0.00484	0.00263	0.0226
Nickel	mg/L	0.00050	0.0110	0.00788	0.0189	0.0305
Rubidium	mg/L	0.00020	0.00488	0.00429	0.00349	0.00832
Selenium	mg/L	0.000050	0.000774	0.000234	0.000427	0.000807
Silver	mg/L	0.000010	< 0.000020 DLA	< 0.000010	< 0.000050	0.000066
Strontium	mg/L	0.00020	1.03	0.948	0.445	3.27
Sulphur (as S)	mg/L	0.50	392	233	316	611
Thallium	mg/L	0.000010	< 0.000020 DLA	< 0.000010	< 0.000050	0.000053
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00010	< 0.00050	< 0.00020 DLA
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00030	< 0.00150	< 0.00060 DLA
Uranium	mg/L	0.000010	0.00796	0.00326	0.00181	0.00350
Vanadium	mg/L	0.00050	0.00169	< 0.00050	< 0.00250	< 0.00100 DLA
Zinc	mg/L	0.0010	0.0181	< 0.0010	< 0.0050	0.0231
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00020	< 0.00100	< 0.00040 DLA
Total Petroleum Hydrocarbons						
Benzene	mg/L	0.00050	-	-	-	-
Toluene	mg/L	0.00050	-	-	-	-
Ethylbenzene	mg/L	0.00050	-	-	-	-
Xylene (m & p)	mg/L	0.00040	-	-	-	-
Xylene (o)	mg/L	0.00030	-	-	-	-
Xylenes Total	mg/L	0.00050	-	-	-	-
PHC F1 (C6-C10)	mg/L	0.10	-	-	-	-
PHC F1 (C6-C10) - BTEX	mg/L	0.10	-	-	-	-
PHC F2 (C10-C16)	mg/L	0.10	-	-	-	-
PHC F3 (C16-C34)	mg/L	0.25	-	-	-	-
PHC F4 (C34-C50)	mg/L	0.25	-	-	-	-
Total Petroleum Hydrocarbons (C6-C50)	mg/L	0.38	-	-	-	-
Program-Specific Parameters						
Total Cyanide	mg/L	1.00	-	-	-	-
Sulphide	mg/L	0.0015	-	-	-	-
Radium-226	Bq/L	0.005	-	-	-	-
Fecal Coliforms	CFU/100mL	1.00	-	-	-	-

Notes:

Results are draft and are subject to change pending completion of final quality assurance checks.

Recommended holding time for pH was exceeded for all samples.
(a) Field turbidity is an arithmetic mean of three readings.
(b) Sample results not received at time of reporting
Shaded Grey & Bold = Exceeded Field DQO

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Table F1. Weekly Concentrations at SNP 43-1 Compared to Maximum Grab Concentrations per the Water Licence - August 2024

			Week #	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
			Sample Name	SNP431-240713	SNP431-240717	SNP431-240723	SNP431-240731	SNP431-240806	SNP431-240813	SNP431-240819	SNP431-240828
			Laboratory Sample ID	YL2400894-014	YL2400938-001	YL2400989-007	YL2401054-006	YL2401115-001	YL2401169-010	YL2401218-003	YL2401324-001
			Sample Date	7/13/2024	7/17/2024	7/23/2024	7/31/2024	8/6/2024	8/13/2024	8/19/2024	8/28/2024
Parameter	**Unit**	**MGC**	**Sample Type**	**W-Spigot**	**M-Spigot**	**W 24 Comp**	**W 24 Comp**	**Spigot**	**Composite**	**Composite**	**Composite**
pH	-	6.5 - 8.5	-	7.4	7.8	7.7	8.1	7.0	7.5	7.7	7.7
Total arsenic	mg/L	0.6	-	0.29	0.27	0.25	0.25	0.24	0.26	0.28	0.27
Chloride	mg/L	720	-	449	462	471	491	498	510	514	501
Total copper	mg/L	0.06	-	0.012	0.010	0.0091	0.0080	0.0076	0.0079	0.009	0.0089
Total lead	mg/L	0.006	-	0.00017	0.00015	0.00012	0.00005	0.000050	0.00005	0.00005	0.00005
Total nickel	mg/L	0.2	-	0.012	0.011	0.0098	0.0086	0.0079	0.008	0.010	0.010
Nitrate, as N	mg/L	25	-	0.47	0.5	0.5	0.5	0.5	0.5	0.5	0.50
Sulphate	mg/L	1440	-	1160	1160	1150	1180	1190	1180	1260	1200
Total zinc	mg/L	0.2	-	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Total suspended solids	mg/L	30	-	1.60	2.3	2.50	2.60	0.5	2.8	0.500	2.5
Total petroleum hydrocarbons	mg/L	5	-	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19

Notes:

Cells highlighted yellow are results that exceed the MGC.

Table F2 Average Concentrations at SNP 43-1 Compared to Maximum Average Concentrations per the Water Licence - August 2024

Parameter	**Unit**	**MAC**	**Weeks 1-4**	**Weeks 2-5**	**Weeks 3-6**	**Weeks 4-7**	**Weeks 5-8**
pH	-	6.5 - 8.5	7.7	7.6	7.6	7.6	7.4
Total arsenic	mg/L	0.3	0.26	0.25	0.25	0.26	0.26
Chloride	mg/L	660	468	481	493	503	506
Total copper	mg/L	0.03	0.010	0.0087	0.0081	0.0080	0.0083
Total lead	mg/L	0.003	0.00012	0.00009	0.00007	0.00005	0.00005
Total nickel	mg/L	0.1	0.010	0.0093	0.01	0.01	0.01
Nitrate, as N	mg/L	13	0.5	0.5	0.5	0.5	0.5
Sulphate	mg/L	1310	1163	1170	1175	1203	1208
Total zinc	mg/L	0.1	0.0030	0.0030	0.0030	0.0030	0.0030
Total suspended solids	mg/L	15	2.25	2.0	2.1	1.6	1.6
Total petroleum hydrocarbons	mg/L	3	0.19	0.19	0.19	0.19	0.19

Notes:

Cells highlighted yellow are averages that exceed the MAC.

Average values are based on four consecutive samples, i.e., calculations begin on Week 4 using results from Weeks 1 to 4.

Table F3. Total Ammonia Concentrations at SNP 43-1 Compared to the Maximum Grab and Maximum Average Concentrations per the Water Licence - August 2024

Grab Concentrations	Unit	7/13/2024	7/17/2024	7/23/2024	7/31/2024	8/6/2024	8/13/2024	8/19/2024	8/28/2024
MGC	**mg/L**	4.4	3.0	3.3	2.0	5.5	4.1	3.3	3.3
Total ammonia, as N	**mg/L**	0.011	0.015	0.022	0.030	0.019	0.027	0.019	0.019
Average Concentrations	**Unit**	-	-	-	**Weeks 1-4**	**Weeks 2-5**	**Weeks 3-6**	**Weeks 4-7**	**Weeks 5-8**
MAC	**mg/L**	-	-	-	1.5	1.7	1.8	1.8	2
Average total ammonia, as N	**mg/L**	-	-	-	0.020	0.021	0.024	0.024	0.021

Notes:

Cells highlighted yellow are results that exceed the MGC or the MAC.

Cells highlighted grey are weekly ammonia results that cannot be compared to the MGC or the MAC because pH was outside the acceptable Water Licence range.

Average values are based on four consecutive samples, i.e., calculations begin on Week 4 using results from Weeks 1 to 4.

Results that are less than the DL have been set to one-half the DL.

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Table G: Toxicity Results - August 2024

	Station	**SNP43-1**
	Sample Date	**2024-08-06**
	Sample Type	**Spigot**
	Unique Sample Identifier	**SNP43-1-Acute-240806**
	Laboratory Sample ID	**YL2401100-001**
Parameter	**Unit**	
Rainbow Trout		
50% Lethal Concentration	% v/v	>100
Daphnia magna		
50% Immobility Concentration	% v/v	>100
50% Lethal Concentration	% v/v	>100
***Ceriodaphnia dubia* (Water flea)**		
50% Lethal Concentration	% v/v	N/A
25% Reproduction Inhibition Concentration	% v/v	N/A
***Pimephales promelas* (Fathead Minnow)**		
50% Lethal Concentration	% v/v	N/A
25% Growth Inhibition Concentration (biomass)	% v/v	N/A
***Lemna minor* (Common Duckweed)**		
25% Growth Inhibition Concentration (frond count)	% v/v	N/A
25% Growth Inhibition Concentration (dry weight)	% v/v	N/A
***Pseudokirchneriella subcapitata* (Algae)**		
25% Growth Inhibition Concentration (cell yield)	% v/v	N/A

Notes:
Results are draft and are subject to change pending completion of final quality assurance checks.

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Table H: Quality Assurance and Quality Control Results - Blanks - August 2024

		Sample Station	TB	SNP 43-1	SNP 43-1	SNP 43-23	TB
		Sample Date	2024-08-06	2024-08-13	2024-08-19	2024-08-19	2024-08-19
		Sample Type	TB	FB	FB	FB	TB
		Unique Sample Identifier	TB-240806	FB-SNP431-240813	FB-SNP431-G-240819	FB-SNP4323-240819	TB-240819
		Laboratory Sample ID	YL2401115-010 YL2401117-006	YL2401169-011 YL2401171-002	YL2401218-002	YL2401218-006	YL2401218-008 YL2401219-002
Parameter	**Unit**	**LOR**					
Conventional (Routine) Parameters							
pH	pH Units	0.10	5.49	5.55	-	5.26	5.43
Specific Conductivity	µS/cm	1.0	< 1.0	1.1	-	< 1.0	1.3
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	< 0.60	< 0.60	-	< 0.60	< 0.60
Total Alkalinity, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	-	< 1.0	< 1.0
Total Dissolved Solids	mg/L	3.0	< 3.0	< 3.0	-	< 3.0	< 3.0
Total Suspended Solids	mg/L	1.0	< 1.0	< 1.0	-	< 1.0	< 1.0
Turbidity	NTU	0.10	< 0.10	< 0.10	-	< 0.10	< 0.10
Major Ions							
Bicarbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	-	< 1.0	< 1.0
Calcium	mg/L	0.050	< 0.050	< 0.050	-	< 0.050	< 0.050
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	-	< 1.0	< 1.0
Chloride	mg/L	0.50	< 0.50	< 0.50	-	< 0.50	< 0.50
Fluoride	mg/L	0.020	< 0.020	< 0.020	-	< 0.020	< 0.020
Magnesium	mg/L	0.0050	< 0.0050	< 0.0050	-	< 0.0050	< 0.0050
Potassium	mg/L	0.050	< 0.050	< 0.050	-	< 0.050	< 0.050
Sodium	mg/L	0.050	< 0.050	< 0.050	-	< 0.050	< 0.050
Sulphate	mg/L	0.30	< 0.30	< 0.30	-	< 0.30	< 0.30
Reactive silica	mg/L	0.50	< 0.50	< 0.50	-	< 0.50 SFT	< 0.50
Nutrients							
Nitrate, as N	mg/L	0.0050	< 0.0050	< 0.0050	-	< 0.0050	< 0.0050
Nitrite, as N	mg/L	0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010
Total Ammonia, as N	mg/L	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 0.050	< 0.050	-	< 0.050	< 0.050
Total Phosphorus (Colourimetric), as P	mg/L	0.0020	< 0.0020	-	-	< 0.0020	< 0.0020
Organic Carbon							
Total organic carbon	mg/L	0.50	< 0.50	< 0.50	-	< 0.50	< 0.50
Dissolved organic carbon	mg/L	0.50	< 0.50	< 0.50	-	< 0.50	< 0.50
Total Metals							
Aluminum	mg/L	0.0030	< 0.0030	< 0.0030	-	< 0.0030	< 0.0030
Antimony	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Arsenic	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Barium	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	-	< 0.000100	< 0.000100

		Sample Station	TB	SNP 43-1	SNP 43-1	SNP 43-23	TB
		Sample Date	2024-08-06	2024-08-13	2024-08-19	2024-08-19	2024-08-19
		Sample Type	TB	FB	FB	FB	TB
		Unique Sample Identifier	TB-240806	FB-SNP431-240813	FB-SNP431-G-240819	FB-SNP4323-240819	TB-240819
		Laboratory Sample ID	YL2401115-010 YL2401117-006	YL2401169-011 YL2401171-002	YL2401218-002	YL2401218-006	YL2401218-008 YL2401219-002
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050
Boron	mg/L	0.010	< 0.010	< 0.010	-	< 0.010	< 0.010
Cadmium	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	< 0.0000050
Cesium	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010
Chromium (III+VI)	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Cobalt	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Copper	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050
Iron	mg/L	0.010	< 0.010	< 0.010	-	< 0.010	< 0.010
Lead	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010
Manganese	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050
Nickel	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050
Rubidium	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020
Selenium	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050
Silver	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020
Sulphur (as S)	mg/L	0.50	< 0.50	< 0.50	-	< 0.50	< 0.50
Thallium	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010
Tin	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Titanium	mg/L	0.00030	< 0.00030	< 0.00030	-	< 0.00030	< 0.00030
Uranium	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010
Vanadium	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050
Zinc	mg/L	0.0030	< 0.0030	< 0.0030	-	< 0.0030	< 0.0030
Zirconium	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020
Dissolved Metals							
Aluminum	mg/L	0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010
Antimony	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Arsenic	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Barium	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	-	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050
Boron	mg/L	0.010	< 0.010	< 0.010	-	< 0.010	< 0.010
Cadmium	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	< 0.0000050
Cesium	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010
Chromium (III+VI)	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Cobalt	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Copper	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020
Iron	mg/L	0.010	< 0.010	< 0.010	-	< 0.010	< 0.010
Lead	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010

		Sample Station	TB	SNP 43-1	SNP 43-1	SNP 43-23	TB
		Sample Date	2024-08-06	2024-08-13	2024-08-19	2024-08-19	2024-08-19
		Sample Type	TB	FB	FB	FB	TB
		Unique Sample Identifier	TB-240806	FB-SNP431-240813	FB-SNP431-G-240819	FB-SNP4323-240819	TB-240819
		Laboratory Sample ID	YL2401115-010 YL2401117-006	YL2401169-011 YL2401171-002	YL2401218-002	YL2401218-006	YL2401218-008 YL2401219-002
Manganese	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050
Nickel	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050
Rubidium	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020
Selenium	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050
Silver	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020
Sulphur (as S)	mg/L	0.50	< 0.50	< 0.50	-	< 0.50	< 0.50
Thallium	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010
Tin	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010
Titanium	mg/L	0.00030	< 0.00030	< 0.00030	-	< 0.00030	< 0.00030
Uranium	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010
Vanadium	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050
Zinc	mg/L	0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010
Zirconium	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020
Total Petroleum Hydrocarbons							
Benzene	mg/L	0.00050	< 0.00050	< 0.00050	-	-	< 0.00050
Toluene	mg/L	0.00050	< 0.00050	< 0.00050	-	-	< 0.00050
Ethylbenzene	mg/L	0.00050	< 0.00050	< 0.00050	-	-	< 0.00050
Xylene (m & p)	mg/L	0.00040	< 0.00040	< 0.00040	-	-	< 0.00040
Xylene (o)	mg/L	0.00030	< 0.00030	< 0.00030	-	-	< 0.00030
Xylenes Total	mg/L	0.00050	< 0.00050	< 0.00050	-	-	< 0.00050
PHC F1 (C6-C10)	mg/L	0.10	< 0.10	< 0.10	-	-	< 0.10
PHC F1 (C6-C10) - BTEX	mg/L	0.10	< 0.100	< 0.100	-	-	< 0.100
PHC F2 (C10-C16)	mg/L	0.10	< 0.10	< 0.10	-	-	< 0.10
PHC F3 (C16-C34)	mg/L	0.25	< 0.25	< 0.25	-	-	< 0.25
PHC F4 (C34-C50)	mg/L	0.25	< 0.25	< 0.25	-	-	< 0.25
Total Petroleum Hydrocarbons (C6-C50)	mg/L	0.38	< 0.38	< 0.38	-	-	< 0.38
Program-Specific Parameters							
Total Cyanide	mg/L	0.005	< 0.0050 HTP	< 0.0050	-	-	< 0.0050 SRU
Sulphide	mg/L	0.0015	< 0.0015	-	-	-	-
Radium-226	Bq/L	0.005	< 0.005	< 0.005	-	-	<0.05
Fecal Coliforms	CFU/100mL	1.00	< 1.0	-	-	-	-

Notes:

Results are draft and are subject to change pending completion of final quality assurance checks

Recommended holding time for pH was exceeded for all samples

Dark shading indicates a concentration > 5x the detection limit was measured within the travel, field, or equipment blank

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table I: Quality Assurance and Quality Control Results - Duplicates - August 2024

		Station	SNP 43-5			SNP 43-11		
		Sample Date	2024-Aug-01	2024-Aug-01	RPD	2024-Aug-06	2024-Aug-06	RPD
		Sample Type	N	FD		N	FD	
		Unique Sample Identifier	SNP435-240801	DUP-SNP435-240801		SNP4311-240806	DUP-SNP4311-240806	
		Laboratory Sample ID	YL2401075-003	YL2401075-004		YL2401115-004 YL2401117-004	YL2401115-005 YL2401117-005	
Parameter Name	**Unit**	**LOR**						
Conventional (Routine) Parameters								
pH	pH Units	0.10	7.76	7.75	0.13%	8.19	8.19	0.00%
Specific Conductivity	µS/cm	1.0	3260	3260	0.00%	189	186	1.60%
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	1390	1420	2.14%	87.4	85	2.78%
Total Alkalinity, as $CaCO_3$	mg/L	1.0	38.2	37.8	1.05%	87.7	87.7	0.00%
Total Dissolved Solids	mg/L	3.0	2810	2700	3.99%	148	144	2.74%
Total Suspended Solids	mg/L	1.0	< 1.0	2.0	NC	1.2	1.4	NC
Turbidity	NTU	0.10	1.23	1.24	0.81%	1.36	1.44	5.71%
Major Ions								
Bicarbonate, as $CaCO_3$	mg/L	1.0	38.2	37.8	1.05%	87.7	87.7	0.00%
Calcium	mg/L	0.050	380	386	1.57%	23.6	22.8	3.45%
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	NC	< 1.0	< 1.0	NC
Chloride	mg/L	0.50	477	475	0.42%	3.81	3.8	0.26%
Fluoride	mg/L	0.020	< 0.400 DLDS	< 0.400 DLDS	NC	0.141	0.139	1.43%
Magnesium	mg/L	0.0050	108	110	1.83%	6.92	6.83	1.31%
Potassium	mg/L	0.050	12.8	13.1	2.32%	1.7	1.69	0.59%
Sodium	mg/L	0.050	190	193	1.57%	4.42	4.39	0.68%
Sulphate	mg/L	0.30	1170	1170	0.00%	2.82	2.83	0.35%
Reactive silica	mg/L	0.50	0.77 SFT	0.77 SFT	NC	1.13	1.14	NC
Nutrients								
Nitrate, as N	mg/L	0.0050	< 0.100 DLDS	< 0.100 DLDS	NC	0.0827	0.0888	7.11%
Nitrite, as N	mg/L	0.0010	< 0.0200 DLDS	< 0.0200 DLDS	NC	0.0027	0.0026	NC
Total Ammonia, as N	mg/L	0.0050	0.0124	0.0120	NC	0.0598	0.0602	0.67%
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 0.100 DLA	< 0.100 DLA	NC	< 0.050	< 0.050	NC
Total Phosphorus (Colourimetric), as P	mg/L	0.050	0.0155	0.0152	1.97%	0.0377	0.0402	6.42%
Organic Carbon								
Total organic carbon	mg/L	0.50	7.99	7.90	1.13%	15.8	16.2	2.50%
Dissolved organic carbon	mg/L	0.002	9.43	7.89	17.78%	15.6	17	8.59%
Total Metals								
Aluminum	mg/L	0.0030	0.0131	0.0141	NC	0.0079	0.0106	NC
Antimony	mg/L	0.00010	0.107	0.107	0.00%	0.00081	0.00078	3.77%
Arsenic	mg/L	0.00010	0.171	0.179	4.57%	0.0424	0.0428	0.94%
Barium	mg/L	0.00010	0.0477	0.0495	3.70%	0.0178	0.0176	1.13%
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	NC	< 0.000100	< 0.000100	NC
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.000050	< 0.000050	NC

		Station	SNP 43-5			SNP 43-11		
		Sample Date	2024-Aug-01	2024-Aug-01	RPD	2024-Aug-06	2024-Aug-06	RPD
		Sample Type	N	FD		N	FD	
		Unique Sample Identifier	SNP435-240801	DUP-SNP435-240801		SNP4311-240806	DUP-SNP4311-240806	
		Laboratory Sample ID	YL2401075-003	YL2401075-004		YL2401115-004 YL2401117-004	YL2401115-005 YL2401117-005	
Boron	mg/L	0.010	0.305	0.323	5.73%	< 0.010	< 0.010	NC
Cadmium	mg/L	0.0000050	0.0000393	0.0000357	NC	< 0.0000050	< 0.0000050	NC
Cesium	mg/L	0.000010	0.000172	0.000194	12.02%	0.000015	0.000014	NC
Chromium (III+VI)	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	NC	< 0.00010	< 0.00010	NC
Cobalt	mg/L	0.00010	0.00230	0.00241	4.67%	0.00013	0.00013	NC
Copper	mg/L	0.00050	0.00440	0.00464	NC	< 0.00050	< 0.00050	NC
Iron	mg/L	0.010	0.231	0.239	3.40%	0.095	0.097	2.08%
Lead	mg/L	0.000050	0.000137	0.000144	NC	< 0.000050	< 0.000050	NC
Lithium	mg/L	0.0010	0.0323	0.0345	6.59%	0.0031	0.0031	NC
Manganese	mg/L	0.00010	0.0540	0.0562	3.99%	0.485	0.478	1.45%
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	NC	< 0.0000050	< 0.0000050	NC
Molybdenum	mg/L	0.000050	0.0105	0.0108	2.82%	0.00108	0.0011	1.83%
Nickel	mg/L	0.00050	0.00579	0.00606	4.56%	< 0.00050	< 0.00050	NC
Rubidium	mg/L	0.00020	0.0112	0.0113	0.89%	0.00461	0.00447	3.08%
Selenium	mg/L	0.000050	0.000226	0.000208	NC	< 0.000050	0.000058	NC
Silver	mg/L	0.000010	0.000022	< 0.000020 DLA	NC	< 0.000010	< 0.000010	NC
Strontium	mg/L	0.00020	3.80	3.87	1.83%	0.0819	0.0788	3.86%
Sulphur (as S)	mg/L	0.50	469	473	0.85%	1.34	1.27	NC
Thallium	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	NC	< 0.000010	< 0.000010	NC
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	NC	< 0.00010	< 0.00010	NC
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00060 DLA	NC	< 0.00030	< 0.00030	NC
Uranium	mg/L	0.000010	0.00138	0.00144	4.26%	0.000495	0.000484	2.25%
Vanadium	mg/L	0.00050	< 0.00100 DLA	< 0.00100 DLA	NC	< 0.00050	< 0.00050	NC
Zinc	mg/L	0.0030	< 0.0060 DLA	< 0.0060 DLA	NC	< 0.0030	< 0.0030	NC
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	NC	< 0.00020	< 0.00020	NC
Dissolved Metals								
Aluminum	mg/L	0.0010	0.0031	0.0034	NC	0.0035	0.0037	NC
Antimony	mg/L	0.00010	0.109	0.112	2.71%	0.00078	0.00081	3.77%
Arsenic	mg/L	0.00010	0.141	0.139	1.43%	0.0395	0.0398	0.76%
Barium	mg/L	0.00010	0.0492	0.0502	2.01%	0.0144	0.0148	2.74%
Beryllium	mg/L	0.000100	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.000100	< 0.000100	NC
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.000050	< 0.000050	NC
Boron	mg/L	0.010	0.272	0.284	4.32%	< 0.010	< 0.010	NC
Cadmium	mg/L	0.0000050	0.0000311	0.0000300	NC	< 0.0000050	< 0.0000050	NC
Cesium	mg/L	0.000010	0.000178	0.000181	1.67%	0.000015	0.000016	NC
Chromium (III+VI)	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	NC	< 0.00010	< 0.00010	NC
Cobalt	mg/L	0.00010	0.00239	0.00234	2.11%	0.00011	0.00011	NC
Copper	mg/L	0.00020	0.00409	0.00410	0.24%	0.0004	0.00045	NC
Iron	mg/L	0.010	0.090	0.080	NC	0.055	0.058	5.31%
Lead	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.000050	< 0.000050	NC
Lithium	mg/L	0.0010	0.0304	0.0310	1.95%	0.0034	0.0033	NC
Manganese	mg/L	0.00010	0.0540	0.0530	1.87%	0.399	0.41	2.72%

		Station	SNP 43-5			SNP 43-11		
		Sample Date	2024-Aug-01	2024-Aug-01	RPD	2024-Aug-06	2024-Aug-06	RPD
		Sample Type	N	FD		N	FD	
		Unique Sample Identifier	SNP435-240801	DUP-SNP435-240801		SNP4311-240806	DUP-SNP4311-240806	
		Laboratory Sample ID	YL2401075-003	YL2401075-004		YL2401115-004 YL2401117-004	YL2401115-005 YL2401117-005	
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	NC	< 0.0000050	< 0.0000050	NC
Molybdenum	mg/L	0.000050	0.0113	0.0112	0.89%	0.00105	0.0011	4.65%
Nickel	mg/L	0.00050	0.00605	0.00603	0.33%	< 0.00050	< 0.00050	NC
Rubidium	mg/L	0.00020	0.0115	0.0119	3.42%	0.00444	0.00437	1.59%
Selenium	mg/L	0.000050	0.000221	0.000249	NC	< 0.000050	0.000065	NC
Silver	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	NC	< 0.000010	< 0.000010	NC
Strontium	mg/L	0.00020	3.91	4.02	2.77%	0.082	0.084	2.41%
Sulphur (as S)	mg/L	0.50	441	447	1.35%	1.38	1.39	NC
Thallium	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	NC	< 0.000010	< 0.000010	NC
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	NC	< 0.00010	< 0.00010	NC
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00060 DLA	NC	< 0.00030	< 0.00030	NC
Uranium	mg/L	0.000010	0.00147	0.00143	2.76%	0.000468	0.000468	0.00%
Vanadium	mg/L	0.00050	< 0.00100 DLA	< 0.00100 DLA	NC	< 0.00050	< 0.00050	NC
Zinc	mg/L	0.0010	0.0064	0.0039	NC	< 0.0010	< 0.0010	NC
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	NC	< 0.00020	< 0.00020	NC
Total Petroleum Hydrocarbons (TPH)								
Benzene	mg/L	0.00050	< 0.00050	< 0.00050	NC	< 0.00050	< 0.00050	NC
Toluene	mg/L	0.00050	< 0.00050	< 0.00050	NC	< 0.00050	< 0.00050	NC
Ethylbenzene	mg/L	0.00050	< 0.00050	< 0.00050	NC	< 0.00050	< 0.00050	NC
Xylene (m & p)	mg/L	0.00040	< 0.00040	< 0.00040	NC	< 0.00040	< 0.00040	NC
Xylene (o)	mg/L	0.00030	< 0.00030	< 0.00030	NC	< 0.00030	< 0.00030	NC
Xylenes Total	mg/L	0.00050	< 0.00050	< 0.00050	NC	< 0.00050	< 0.00050	NC
PHC F1 (C6-C10)	mg/L	0.10	< 0.10	< 0.10	NC	< 0.10	< 0.10	NC
PHC F1 (C6-C10) - BTEX	mg/L	0.100	< 0.100	< 0.100	NC	< 0.100	< 0.100	NC
PHC F2 (C10-C16)	mg/L	0.10	< 0.10	< 0.10	NC	< 0.10	< 0.10	NC
PHC F3 (C16-C34)	mg/L	0.25	< 0.25	< 0.25	NC	< 0.25	< 0.25	NC
PHC F4 (C34-C50)	mg/L	0.25	< 0.25	< 0.25	NC	< 0.25	< 0.25	NC
Total Petroleum Hydrocarbons (C6-C50)	mg/L	0.38	< 0.38	< 0.38	NC	< 0.38	< 0.38	NC
Program-Specific Parameters								
			-	-	-	-	-	-
Radium-226	Bq/L	0.0050	-	-	-	< 0.005	< 0.005	NC
Fecal Coliforms	CFU/100mL	1.00	-	-	-	-	-	-

Notes:

Results are draft and are subject to change pending completion of final quality assurance checks.

Dark shading indicates concentration of one or more parameters is greater than five times the detection limit and a relative percent difference exceeding 20% (acceptable difference) among field sample and duplicate.

Recommended holding time for pH was exceeded for all laboratory samples.

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table I: Quality Assurance and Quality Control Results - Duplicates - Au

		Station	SNP 43-1G			SNP 43-31		
		Sample Date	2024-Aug-13	2024-Aug-13	RPD	2024-Aug-14	2024-Aug-14	RPD
		Sample Type	N	FD		N	FD	
		Unique Sample Identifier	SNP431-G-240813	DUP-SNP431-G-240813		SNP4331-240814	DUP-SNP4331-240814	
		Laboratory Sample ID	YL2401169-008	YL2401169-009		YL2401192-002	YL2401192-003	
Parameter Name	**Unit**	**LOR**						
Conventional (Routine) Parameters								
pH	pH Units	0.10	-	-	-	8.16	8.16	0.00%
Specific Conductivity	µS/cm	1.0	-	-	-	1650	1650	0.00%
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	-	-	-	924	952	2.99%
Total Alkalinity, as $CaCO_3$	mg/L	1.0	-	-	-	76.3	76.3	0.00%
Total Dissolved Solids	mg/L	3.0	-	-	-	1760	1740	1.14%
Total Suspended Solids	mg/L	1.0	-	-	-	< 1.0	< 1.0	NC
Turbidity	NTU	0.10	-	-	-	1.01	1.02	0.99%
Major Ions								
Bicarbonate, as $CaCO_3$	mg/L	1.0	-	-	-	76.3	76.3	0.00%
Calcium	mg/L	0.050	-	-	-	262	271	3.38%
Carbonate, as $CaCO_3$	mg/L	1.0	-	-	-	< 1.0	< 1.0	NC
Chloride	mg/L	0.50	-	-	-	< 5.00 DLDS	< 5.00 DLDS	NC
Fluoride	mg/L	0.020	-	-	-	< 0.200 DLDS	< 0.200 DLDS	NC
Magnesium	mg/L	0.0050	-	-	-	65.5	66.9	2.11%
Potassium	mg/L	0.050	-	-	-	5.87	5.84	0.51%
Sodium	mg/L	0.050	-	-	-	10.7	10.5	1.89%
Sulphate	mg/L	0.30	-	-	-	948	942	0.63%
Reactive silica	mg/L	0.50	-	-	-	7.1	7.08	0.28%
Nutrients								
Nitrate, as N	mg/L	0.0050	-	-	-	< 0.0500 DLDS	< 0.0500 DLDS	NC
Nitrite, as N	mg/L	0.0010	-	-	-	< 0.0100 DLDS	< 0.0100 DLDS	NC
Total Ammonia, as N	mg/L	0.0050	0.0197	0.0194	NC	0.0196	0.0194	NC
Total Phosphorus (ICPMS), as P	mg/L	0.050	-	-	-	< 0.250 DLA	< 0.250 DLA	NC
Total Phosphorus (Colourimetric), as P	mg/L	0.050	-	-	-	-	-	-
Organic Carbon								
Total organic carbon	mg/L	0.50	-	-	-	14.2	13.7	3.58%
Dissolved organic carbon	mg/L	0.002	-	-	-	14.5	14.2	2.09%
Total Metals								
Aluminum	mg/L	0.0030	-	-	-	< 0.0150 DLA	< 0.0150 DLA	NC
Antimony	mg/L	0.00010	-	-	-	0.156	0.156	0.00%
Arsenic	mg/L	0.00010	-	-	-	5.97	6	0.50%
Barium	mg/L	0.00010	-	-	-	0.0192	0.0193	0.52%
Beryllium	mg/L	0.000100	-	-	-	< 0.000100	< 0.000100	NC
Bismuth	mg/L	0.000050	-	-	-	< 0.000250 DLA	< 0.000250 DLA	NC

		Station	SNP 43-1G			SNP 43-31		
		Sample Date	2024-Aug-13	2024-Aug-13	RPD	2024-Aug-14	2024-Aug-14	RPD
		Sample Type	N	FD		N	FD	
		Unique Sample Identifier	SNP431-G-240813	DUP-SNP431-G-240813		SNP4331-240814	DUP-SNP4331-240814	
		Laboratory Sample ID	YL2401169-008	YL2401169-009		YL2401192-002	YL2401192-003	
Boron	mg/L	0.010	-	-	-	0.06	0.062	NC
Cadmium	mg/L	0.0000050	-	-	-	< 0.0000250 DLA	< 0.0000250 DLA	NC
Cesium	mg/L	0.000010	-	-	-	< 0.000050 DLA	< 0.000050 DLA	NC
Chromium (III+VI)	mg/L	0.00010	-	-	-	< 0.00050 DLA	< 0.00050 DLA	NC
Cobalt	mg/L	0.00010	-	-	-	0.00106	0.00106	NC
Copper	mg/L	0.00050	-	-	-	0.00544	0.00561	NC
Iron	mg/L	0.010	-	-	-	0.148	0.149	NC
Lead	mg/L	0.000050	-	-	-	0.000324	0.000325	NC
Lithium	mg/L	0.0010	-	-	-	0.011	0.0112	NC
Manganese	mg/L	0.00010	-	-	-	0.0237	0.0149	**45.60%**
Mercury	mg/L	0.0000050	-	-	-	< 0.0000050	< 0.0000050	NC
Molybdenum	mg/L	0.000050	-	-	-	0.00271	0.00269	0.74%
Nickel	mg/L	0.00050	-	-	-	0.0195	0.0201	3.03%
Rubidium	mg/L	0.00020	-	-	-	0.00342	0.00369	NC
Selenium	mg/L	0.000050	-	-	-	0.00041	0.000582	NC
Silver	mg/L	0.000010	-	-	-	< 0.000050 DLA	< 0.000050 DLA	NC
Strontium	mg/L	0.00020	-	-	-	0.465	0.476	2.34%
Sulphur (as S)	mg/L	0.50	-	-	-	326	334	2.42%
Thallium	mg/L	0.000010	-	-	-	< 0.000050 DLA	< 0.000050 DLA	NC
Tin	mg/L	0.00010	-	-	-	< 0.00050 DLA	< 0.00050 DLA	NC
Titanium	mg/L	0.00030	-	-	-	< 0.00150 DLA	< 0.00150 DLA	NC
Uranium	mg/L	0.000010	-	-	-	0.00195	0.00193	1.03%
Vanadium	mg/L	0.00050	-	-	-	< 0.00250 DLA	< 0.00250 DLA	NC
Zinc	mg/L	0.0030	-	-	-	< 0.0150 DLA	< 0.0150 DLA	NC
Zirconium	mg/L	0.00020	-	-	-	< 0.00100 DLA	< 0.00100 DLA	NC
Dissolved Metals								
Aluminum	mg/L	0.0010	-	-	-	< 0.0050	< 0.0050	NC
Antimony	mg/L	0.00010	-	-	-	0.148	0.147	0.68%
Arsenic	mg/L	0.00010	-	-	-	5.68	5.71	0.53%
Barium	mg/L	0.00010	-	-	-	0.0177	0.0178	0.56%
Beryllium	mg/L	0.000100	-	-	-	< 0.000100	< 0.000100	NC
Bismuth	mg/L	0.000050	-	-	-	< 0.000250	< 0.000250	NC
Boron	mg/L	0.010	-	-	-	0.056	0.058	NC
Cadmium	mg/L	0.0000050	-	-	-	< 0.0000250	< 0.0000250	NC
Cesium	mg/L	0.000010	-	-	-	< 0.000050	< 0.000050	NC
Chromium (III+VI)	mg/L	0.00010	-	-	-	< 0.00050	< 0.00050	NC
Cobalt	mg/L	0.00010	-	-	-	0.00099	0.00096	NC
Copper	mg/L	0.00020	-	-	-	0.005	0.00492	NC
Iron	mg/L	0.010	-	-	-	0.091	0.098	NC
Lead	mg/L	0.000050	-	-	-	< 0.000250	< 0.000250	NC
Lithium	mg/L	0.0010	-	-	-	0.0108	0.0107	NC
Manganese	mg/L	0.00010	-	-	-	0.0124	0.0125	0.80%

		Station	SNP 43-1G			SNP 43-31		
		Sample Date	2024-Aug-13	2024-Aug-13	RPD	2024-Aug-14	2024-Aug-14	RPD
		Sample Type	N	FD		N	FD	
		Unique Sample Identifier	SNP431-G-240813	DUP-SNP431-G-240813		SNP4331-240814	DUP-SNP4331-240814	
		Laboratory Sample ID	YL2401169-008	YL2401169-009		YL2401192-002	YL2401192-003	
Mercury	mg/L	0.0000050	-	-	-	< 0.0000050	< 0.0000050	NC
Molybdenum	mg/L	0.000050	-	-	-	0.00263	0.00253	3.88%
Nickel	mg/L	0.00050	-	-	-	0.0189	0.0195	3.13%
Rubidium	mg/L	0.00020	-	-	-	0.00349	0.00362	NC
Selenium	mg/L	0.000050	-	-	-	0.000427	0.000456	NC
Silver	mg/L	0.000010	-	-	-	< 0.000050	< 0.000050	NC
Strontium	mg/L	0.00020	-	-	-	0.445	0.449	0.89%
Sulphur (as S)	mg/L	0.50	-	-	-	316	321	1.57%
Thallium	mg/L	0.000010	-	-	-	< 0.000050	< 0.000050	NC
Tin	mg/L	0.00010	-	-	-	< 0.00050	< 0.00050	NC
Titanium	mg/L	0.00030	-	-	-	< 0.00150	< 0.00150	NC
Uranium	mg/L	0.000010	-	-	-	0.00181	0.00186	2.72%
Vanadium	mg/L	0.00050	-	-	-	< 0.00250	< 0.00250	NC
Zinc	mg/L	0.0010	-	-	-	< 0.0050	< 0.0050	NC
Zirconium	mg/L	0.00020	-	-	-	< 0.00100	< 0.00100	NC
Total Petroleum Hydrocarbons (TPH)								
Benzene	mg/L	0.00050	-	-	-	-	-	-
Toluene	mg/L	0.00050	-	-	-	-	-	-
Ethylbenzene	mg/L	0.00050	-	-	-	-	-	-
Xylene (m & p)	mg/L	0.00040	-	-	-	-	-	-
Xylene (o)	mg/L	0.00030	-	-	-	-	-	-
Xylenes Total	mg/L	0.00050	-	-	-	-	-	-
PHC F1 (C6-C10)	mg/L	0.10	-	-	-	-	-	-
PHC F1 (C6-C10) - BTEX	mg/L	0.100	-	-	-	-	-	-
PHC F2 (C10-C16)	mg/L	0.10	-	-	-	-	-	-
PHC F3 (C16-C34)	mg/L	0.25	-	-	-	-	-	-
PHC F4 (C34-C50)	mg/L	0.25	-	-	-	-	-	-
Total Petroleum Hydrocarbons (C6-C50)	mg/L	0.38	-	-	-	-	-	-
Program-Specific Parameters								
			-	-	-	-	-	-
Radium-226	Bq/L	0.0050	-	-	-	-	-	-
Fecal Coliforms	CFU/100mL	1.00	-	-	-	-	-	-

Notes:

Results are draft and are subject to change pending completion of final quality assurance checks.

Dark shading indicates concentration of one or more parameters is greater than five times the detection limit and a relative percent difference exceeding 20% (acceptable difference) among field sample and duplicate.

Recommended holding time for pH was exceeded for all laboratory samples.

Giant Mine Remediation Project
Surface Water and Groundwater Monitoring Program
Monthly Data Summary

Table J: GMRP Parameter List - August 2024

Field Parameters
pH
Temperature
Dissolved oxygen
Specific conductivity
Oxygen reduction potential [(a)]
Turbidity
Conventional (Routine) Parameters
pH
Specific conductivity
Hardness, as $CaCO_3$
Total alkalinity, as $CaCO_3$
Total dissolved solids
Total suspended solids
Turbidity
Major Ions
Bicarbonate, as $CaCO_3$
Calcium
Carbonate, as $CaCO_3$
Chloride
Fluoride
Magnesium
Potassium
Sodium
Sulphate
Reactive silica
Nutrients
Nitrate, as N
Nitrite, as N
Total ammonia, as N
Total phosphorus, as P
Organic Carbon
Total organic carbon
Dissolved organic carbon

Total and Dissolved Metals
Aluminum
Antimony
Arsenic
Barium
Beryllium
Bismuth
Boron
Cadmium
Cesium
Chromium
Cobalt
Copper
Iron
Lead
Lithium
Manganese
Mercury
Molybdenum
Nickel
Rubidium
Selenium
Silver
Strontium
Sulphur
Thallium
Tin
Titanium
Uranium
Vanadium
Zinc
Zirconium
Program-Specific Parameters
Total Petroleum Hydrocarbons [(c) (d) (e)]
Total cyanide [(b)]
Sulphide [(c)]
Radium-226 [(f)]
Fecal coliforms [(g)]

Notes:

(a) Field measurement of oxygen reduction potential is only required at groundwater monitoring stations.

(b) Sampled weekly for the MDMER/EEM program at SNP 43-1.

(c) Sampled monthly for the MDMER/EEM program SNP 43-1.

(d) Total Petroleum Hydrocarbon analysis includes volatile organic compounds (VOCs); i.e., benzene, toluene, ethylbenzene and xylenes (BTEX) and petroleum hydrocarbons (PHC) fractions F1 to F4.

(e) Sampled weekly at SNP 43-1, SNP 43-5, SNP 43-21/SNP 43-21A; monthly at Baker Creek Exposure Point, SNP 43-11, and 43-12.

(f) Sampled weekly for the MDMER/EEM program at SNP 43-1; monthly at Baker Creek Exposure Point and SNP 43-11 during discharge.

(g) Sampled monthly at SNP 43-1 and weekly at SNP 43-21/SNP 43-21A.

GMRP = Giant Mine Remediation Project; $CaCO_3$ = calcium carbonate; MDMER/EEM = Metal and Diamond Mining Effluent Regulations/Environmental Effects Monitoring; SNP = Surveillance Network Program

Appendix A

ALS Canada Ltd.

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CERTIFICATE OF ANALYSIS

Work Order	: **YL2401325**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife Northwest Territories Canada X1A 0G5	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 29-Aug-2024 09:11
PO	: YEL218	Date Analysis Commenced	: 29-Aug-2024
C-O-C number	: ----	Issue Date	: 20-Sep-2024 03:08
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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*
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Jon Fisher	Production Manager, Environmental	Inorganics, Waterloo, Ontario
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Oliver Gregg	Client Services Supervisor	External Subcontracting, Yellowknife, Northwest Territories
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*
mg/L	milligrams per litre
pH units	pH units
NTU	nephelometric turbidity units
µS/cm	microsiemens per centimetre
-	no units
meq/L	milliequivalents per litre
%	percent
µg/L	micrograms per litre
CFU/100mL	colony forming units per hundred millilitres

<: 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
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).
DTSE	Dissolved Se concentration exceeds total. Positive bias on D-Se suspected due to signal enhancement from volatile selenium species. Contact ALS if an alternative test to address this interference is needed.
RRV	Reported result verified by repeat analysis.
SFT	Sample was filtered due to turbidity interference. Result reflects soluble analyte concentration.

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240828	SNP431-G-240828	FB-SNP431-G-240828	SNP431-240828	DUP-SNP431-240828
				Client sampling date / time	28-Aug-2024 17:49	28-Aug-2024 18:54	28-Aug-2024 18:54	28-Aug-2024 19:14	28-Aug-2024 19:14
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-001	YL2401325-002	YL2401325-003	YL2401325-004	YL2401325-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	160	----	----	42.1	41.8
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	2.8	----	----	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	----	----	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	1.4	----	----	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	163	----	----	42.1	41.8
Conductivity	----	E100/VA	1.0	µS/cm	856	----	----	3320	3340
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	372	----	----	1580	1620
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	354	----	----	1490	1480
pH	----	E108/VA	0.10	pH units	8.32	----	----	7.76	7.76
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	640	----	----	2710	2760
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	1.5	----	----	2.5	2.7
Turbidity	----	E121/VA	0.10	NTU	2.69	----	----	0.45	0.48
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0234	<0.0050	0.0167 RRV	0.0185	0.0188
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	0.851	----	----	6.12	6.14
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	93.4	----	----	501	505
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.105	----	----	<0.400 DLDS	<0.400 DLDS
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0250 DLDS	----	----	0.516	0.508
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0255	----	----	0.516	0.508
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0050 DLDS	----	----	<0.0200 DLDS	<0.0200 DLDS
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0407	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240828	SNP431-G-240828	FB-SNP431-G-240828	SNP431-240828	DUP-SNP431-240828
				Client sampling date / time	28-Aug-2024 17:49	28-Aug-2024 18:54	28-Aug-2024 18:54	28-Aug-2024 19:14	28-Aug-2024 19:14
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-001	YL2401325-002	YL2401325-003	YL2401325-004	YL2401325-005
					Result	Result	Result	Result	Result
Anions and Nutrients									
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	4.26 SFT	----	----	0.97	0.98
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	150	----	----	1200	1210
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/WT	0.0050	mg/L	----	----	----	<0.0050	<0.0050
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	28.2	----	----	8.14	7.62
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	25.9	----	----	7.27	7.73
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	9.03	----	----	40.1	40.4
Cation sum	----	EC101/VA	0.10	meq/L	9.58	----	----	41.1	42.4
Ion balance (APHA)	----	EC101/VA	0.01	%	2.96	----	----	1.23	2.42
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0662	----	----	0.0084	0.0089
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00433	----	----	0.186	0.187
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.127	----	----	0.273	0.275
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0407	----	----	0.0170	0.0164
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	----	----	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	----	----	<0.000100 DLA	<0.000100 DLA
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.030	----	----	0.321	0.314
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	----	----	0.0000225	0.0000209
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	72.0	----	----	411	407

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240828	SNP431-G-240828	FB-SNP431-G-240828	SNP431-240828	DUP-SNP431-240828
				Client sampling date / time	28-Aug-2024 17:49	28-Aug-2024 18:54	28-Aug-2024 18:54	28-Aug-2024 19:14	28-Aug-2024 19:14
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-001	YL2401325-002	YL2401325-003	YL2401325-004	YL2401325-005
					Result	Result	Result	Result	Result
Total Metals									
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	----	----	0.000379	0.000384
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00018	----	----	0.00028	0.00030
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	----	----	<0.00100 DLA	<0.00100 DLA
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00236	----	----	0.00394	0.00387
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	----	----	0.00894	0.00883
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.105	----	----	<0.020 DLA	<0.020 DLA
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	----	----	<0.000100 DLA	<0.000100 DLA
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0139	----	----	0.0355	0.0352
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	42.3	----	----	112	112
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0401	----	----	0.00262	0.00267
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	----	----	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.000585	----	----	0.0177	0.0175
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00072	----	----	0.00971	0.00968
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	----	----	<0.100 DLA	<0.100 DLA
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	5.87	----	----	13.2	12.6
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00324	----	----	0.0120	0.0122
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000070	----	----	0.000403	0.000479
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	2.25	----	----	0.49	0.51
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	----	----	0.000046	0.000050
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	43.0	----	----	202	202
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.429	----	----	4.45	4.42

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240828	SNP431-G-240828	FB-SNP431-G-240828	SNP431-240828	DUP-SNP431-240828
				Client sampling date / time	28-Aug-2024 17:49	28-Aug-2024 18:54	28-Aug-2024 18:54	28-Aug-2024 19:14	28-Aug-2024 19:14
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-001	YL2401325-002	YL2401325-003	YL2401325-004	YL2401325-005
					Result	Result	Result	Result	Result
Total Metals									
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	54.9	----	----	430	438
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	----	----	0.00048	0.00043
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	----	----	<0.000020 DLA	0.000020
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	----	----	<0.00020 DLA	<0.00020 DLA
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	----	----	<0.00020 DLA	<0.00020 DLA
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00270 DLM	----	----	<0.00060 DLA	<0.00060 DLA
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	----	----	0.00027	0.00027
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000900	----	----	0.00264	0.00266
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00053	----	----	<0.00100 DLA	<0.00100 DLA
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	----	----	<0.0060 DLA	<0.0060 DLA
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	----	----	<0.00040 DLA	<0.00040 DLA
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0056	----	----	0.0066	0.0082
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00415	----	----	0.179	0.179
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.128	----	----	0.274	0.282
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0428	----	----	0.0178	0.0182
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	----	----	<0.000100	<0.000100
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	----	----	<0.000100 DLA	<0.000100 DLA
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.028	----	----	0.310	0.323
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	----	----	0.0000219	0.0000219
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	76.4	----	----	443	452

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240828	SNP431-G-240828	FB-SNP431-G-240828	SNP431-240828	DUP-SNP431-240828
				Client sampling date / time	28-Aug-2024 17:49	28-Aug-2024 18:54	28-Aug-2024 18:54	28-Aug-2024 19:14	28-Aug-2024 19:14
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-001	YL2401325-002	YL2401325-003	YL2401325-004	YL2401325-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	----	----	0.000368	0.000356
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	----	----	0.00025	0.00021
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	----	----	<0.00100 DLA	<0.00100 DLA
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00233	----	----	0.00373	0.00389
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00050	----	----	0.00846	0.00869
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.037	----	----	<0.020 DLA	<0.020 DLA
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	----	----	<0.000100 DLA	<0.000100 DLA
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0129	----	----	0.0323	0.0344
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	44.0	----	----	115	119
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.0353	----	----	0.00132	0.00113
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	----	----	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.000537	----	----	0.0176	0.0176
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00070	----	----	0.00959	0.00996
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	----	----	<0.100 DLA	<0.100 DLA
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	6.00	----	----	13.5	13.8
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00306	----	----	0.0113	0.0122
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000088	----	----	0.000346	0.000403
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	2.06	----	----	0.498	0.465
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	----	----	0.000030	0.000030
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	45.7	----	----	212	222
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.402	----	----	4.27	4.28

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240828	SNP431-G-240828	FB-SNP431-G-240828	SNP431-240828	DUP-SNP431-240828
				Client sampling date / time	28-Aug-2024 17:49	28-Aug-2024 18:54	28-Aug-2024 18:54	28-Aug-2024 19:14	28-Aug-2024 19:14
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-001	YL2401325-002	YL2401325-003	YL2401325-004	YL2401325-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	54.1	----	----	434	438
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	----	----	<0.00040 DLA	<0.00040 DLA
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	----	----	0.000027	0.000028
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	----	----	<0.00020 DLA	<0.00020 DLA
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	----	----	<0.00020 DLA	<0.00020 DLA
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	----	----	<0.00060 DLA	<0.00060 DLA
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00010	----	----	0.00025	0.00029
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.000885	----	----	0.00252	0.00267
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	----	----	<0.00100 DLA	<0.00100 DLA
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	----	----	0.0033	0.0034
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	----	----	<0.00040 DLA	<0.00040 DLA
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	----	----	Field	Field
Dissolved metals filtration location	----	EP421/VA	-	-	Field	----	----	Field	Field
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	----	----	----	<0.00050	<0.00050
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	----	----	----	<0.00050	<0.00050
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	----	----	----	<0.00050	<0.00050
Styrene	100-42-5	E611A/VA	0.00050	mg/L	----	----	----	<0.00050	<0.00050
Toluene	108-88-3	E611A/VA	0.00050	mg/L	----	----	----	<0.00050	<0.00050
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	----	----	----	<0.00040	<0.00040
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	----	----	----	<0.00030	<0.00030

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240828	SNP431-G-240828	FB-SNP431-G-240828	SNP431-240828	DUP-SNP431-240828
				Client sampling date / time	28-Aug-2024 17:49	28-Aug-2024 18:54	28-Aug-2024 18:54	28-Aug-2024 19:14	28-Aug-2024 19:14
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-001	YL2401325-002	YL2401325-003	YL2401325-004	YL2401325-005
					Result	Result	Result	Result	Result
Volatile Organic Compounds [Fuels]									
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	----	----	----	<0.00050	<0.00050
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	----	----	----	<0.10	<0.10
F2 (C10-C16)	----	E601/VA	0.10	mg/L	----	----	----	<0.10	<0.10
F3 (C16-C34)	----	E601/VA	0.25	mg/L	----	----	----	<0.25	<0.25
F4 (C34-C50)	----	E601/VA	0.25	mg/L	----	----	----	<0.25	<0.25
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	----	----	----	<0.38	<0.38
F1-BTEX	----	EC580/VA	0.100	mg/L	----	----	----	<0.100	<0.100
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	----	----	89.6	92.0
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	----	----	97.4	96.6
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	----	----	98.4	97.6
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	----	----	101	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.

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321A-240828	SNP4323-240828	SNP435-240828	----	----
				Client sampling date / time	28-Aug-2024 19:48	28-Aug-2024 20:49	28-Aug-2024 21:03	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-006	YL2401325-007	YL2401325-008	----	----
					Result	Result	Result	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	185	73.9	60.8	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	185	73.9	60.8	----	----
Conductivity	----	E100/VA	1.0	µS/cm	2950	3270	3360	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1330	1530	1590	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1310	1440	1490	----	----
pH	----	E108/VA	0.10	pH units	8.01	8.03	7.95	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	2410	2690	2890	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	1.1	6.3	2.5	----	----
Turbidity	----	E121/VA	0.10	NTU	1.16	7.52	2.08	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.788	0.0128	0.0150	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	5.86	5.50	5.60	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	476	466	478	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.400 DLDS	<0.400 DLDS	<0.400 DLDS	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.488	<0.100 DLDS	<0.100 DLDS	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.517	<0.102	<0.102	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0293	<0.0200 DLDS	<0.0200 DLDS	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	----	0.0262	0.0078	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321A-240828	SNP4323-240828	SNP435-240828	----	----
				Client sampling date / time	28-Aug-2024 19:48	28-Aug-2024 20:49	28-Aug-2024 21:03	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-006	YL2401325-007	YL2401325-008	----	----
					Result	Result	Result	----	----
Anions and Nutrients									
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	12.1	0.58 SFT	0.57	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	830	1140	1170	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	7.23	9.37	7.67	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	7.14	8.24	8.68	----	----
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	FC-MF/1Y	1.0	CFU/100 mL	<1.0	----	----	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	34.5	38.4	39.1	----	----
Cation sum	----	EC101/VA	0.10	meq/L	35.3	39.8	41.2	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	1.15	1.79	2.62	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	<0.0300 DLA	0.257	0.0360	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.706	0.0909	0.0749	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	24.3	0.139	0.0870	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0470	0.108	0.0969	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000200 DLA	<0.000100	<0.000100	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000500 DLA	<0.000100 DLA	<0.000100 DLA	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.331	0.266	0.280	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.000295	0.0000314	0.0000575	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	350	402	414	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321A-240828	SNP4323-240828	SNP435-240828	----	----
				Client sampling date / time	28-Aug-2024 19:48	28-Aug-2024 20:49	28-Aug-2024 21:03	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-006	YL2401325-007	YL2401325-008	----	----
					Result	Result	Result	----	----
Total Metals									
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000728	0.000067	0.000064	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00100 DLA	0.00041	<0.00020 DLA	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00500 DLA	<0.00100 DLA	<0.00100 DLA	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.0376	0.00230	0.00189	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00500 DLA	0.00562	0.00389	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.240	0.524	0.184	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.00374	0.00246	0.000448	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0330	0.0298	0.0310	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	107	107	111	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.511	0.569	0.0994	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0183	0.00610	0.00568	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.0445	0.0119	0.00835	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.500 DLA	<0.100 DLA	<0.100 DLA	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	11.1	12.4	12.9	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.0114	0.0119	0.0125	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000500 DLA	<0.000100 DLA	0.000197	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	5.90	0.82	0.37	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000100 DLA	0.000036	<0.000020 DLA	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	192	183	198	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	4.93	3.95	4.10	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321A-240828	SNP4323-240828	SNP435-240828	----	----
				Client sampling date / time	28-Aug-2024 19:48	28-Aug-2024 20:49	28-Aug-2024 21:03	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-006	YL2401325-007	YL2401325-008	----	----
					Result	Result	Result	----	----
Total Metals									
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	291	424	421	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00200 DLA	0.00062	0.00057	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000100 DLA	<0.000020 DLA	<0.000020 DLA	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00100 DLA	<0.00020 DLA	<0.00020 DLA	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00100 DLA	<0.00020 DLA	<0.00020 DLA	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00300 DLA	<0.0108 DLM	<0.00120 DLM	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00100 DLA	<0.00020 DLA	<0.00020 DLA	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00603	0.00243	0.00196	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00500 DLA	<0.00100 DLA	<0.00100 DLA	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0509	0.0086	0.0089	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00200 DLA	<0.00040 DLA	<0.00040 DLA	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	<0.0100 DLA	0.0048	0.0032	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.660	0.0914	0.0717	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	24.6	0.0818	0.0645	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0498	0.114	0.0977	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000200 DLA	<0.000100	<0.000100	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000500 DLA	<0.000100 DLA	<0.000100 DLA	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.328	0.270	0.283	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.000248	0.0000245	0.0000443	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	358	429	445	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321A-240828	SNP4323-240828	SNP435-240828	----	----
				Client sampling date / time	28-Aug-2024 19:48	28-Aug-2024 20:49	28-Aug-2024 21:03	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-006	YL2401325-007	YL2401325-008	----	----
					Result	Result	Result	----	----
Dissolved Metals									
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000692	0.000033	0.000054	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00100 DLA	<0.00020 DLA	<0.00020 DLA	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00500 DLA	<0.00100 DLA	<0.00100 DLA	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.0387	0.00206	0.00188	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00204	0.00331	0.00367	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.162	0.033	0.052	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	0.00327	0.000214	<0.000100 DLA	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0320	0.0285	0.0300	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	105	111	117	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.518	0.568	0.0963	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.0182	0.00613	0.00546	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.0427	0.0109	0.00822	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.500 DLA	<0.100 DLA	<0.100 DLA	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	11.2	12.7	12.9	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.0110	0.0109	0.0115	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	<0.000500 DLA	0.000199 DTSE	0.000141	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	6.04	0.292	0.254	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000100 DLA	<0.000020 DLA	<0.000020 DLA	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	194	204	207	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	4.39	3.66	3.74	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321A-240828	SNP4323-240828	SNP435-240828	----	----
				Client sampling date / time	28-Aug-2024 19:48	28-Aug-2024 20:49	28-Aug-2024 21:03	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-006	YL2401325-007	YL2401325-008	----	----
					Result	Result	Result	----	----
Dissolved Metals									
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	279	414	409	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00200 DLA	<0.00040 DLA	<0.00040 DLA	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000100 DLA	<0.000020 DLA	<0.000020 DLA	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00100 DLA	<0.00020 DLA	<0.00020 DLA	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00100 DLA	<0.00020 DLA	<0.00020 DLA	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00300 DLA	<0.00060 DLA	<0.00060 DLA	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00100 DLA	<0.00020 DLA	<0.00020 DLA	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00610	0.00242	0.00195	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00500 DLA	<0.00100 DLA	<0.00100 DLA	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0545	0.0063	0.0076	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00200 DLA	<0.00040 DLA	<0.00040 DLA	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	----	----
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	<0.00050	----	<0.00050	----	----
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	<0.00050	----	<0.00050	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	<0.00050	----	<0.00050	----	----
Styrene	100-42-5	E611A/VA	0.00050	mg/L	<0.00050	----	<0.00050	----	----
Toluene	108-88-3	E611A/VA	0.00050	mg/L	<0.00050	----	<0.00050	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	<0.00040	----	<0.00040	----	----
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	<0.00030	----	<0.00030	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321A-240828	SNP4323-240828	SNP435-240828	----	----
				Client sampling date / time	28-Aug-2024 19:48	28-Aug-2024 20:49	28-Aug-2024 21:03	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401325-006	YL2401325-007	YL2401325-008	----	----
					Result	Result	Result	----	----
Volatile Organic Compounds [Fuels]									
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	<0.00050	----	<0.00050	----	----
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	<0.10	----	<0.10	----	----
F2 (C10-C16)	----	E601/VA	0.10	mg/L	<0.10	----	<0.10	----	----
F3 (C16-C34)	----	E601/VA	0.25	mg/L	<0.25	----	<0.25	----	----
F4 (C34-C50)	----	E601/VA	0.25	mg/L	<0.25	----	<0.25	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	<0.38	----	<0.38	----	----
F1-BTEX	----	EC580/VA	0.100	mg/L	<0.100	----	<0.100	----	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	99.6	----	80.9	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	103	----	91.8	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	96.6	----	96.0	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	101	----	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401325**	Page	: 1 of 28
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 29-Aug-2024 09:11
PO	: YEL218	Issue Date	: 19-Sep-2024 10:27
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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) DUP-SNP431-240828	E298	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	05-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) FB-SNP431-G-240828	E298	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	05-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP431-240828	E298	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	05-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP431-G-240828	E298	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	05-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4321A-240828	E298	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	05-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4323-240828	E298	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	06-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP435-240828	E298	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	05-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
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
TRCK-240828	E298	28-Aug-2024	03-Sep-2024	28 days	6 days	✓	04-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
DUP-SNP431-240828	E235.Br-L	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
SNP431-240828	E235.Br-L	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
SNP4321A-240828	E235.Br-L	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
SNP4323-240828	E235.Br-L	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	31-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
SNP435-240828	E235.Br-L	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	31-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
TRCK-240828	E235.Br-L	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE										
DUP-SNP431-240828	E235.Cl	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE										
SNP431-240828	E235.Cl	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 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 SNP4321A-240828	E235.Cl	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4323-240828	E235.Cl	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	31-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP435-240828	E235.Cl	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	31-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TRCK-240828	E235.Cl	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-SNP431-240828	E235.F	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP431-240828	E235.F	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4321A-240828	E235.F	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4323-240828	E235.F	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	31-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP435-240828	E235.F	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	31-Aug-2024	28 days	2 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 : Fluoride in Water by IC										
HDPE TRCK-240828	E235.F	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE DUP-SNP431-240828	E235.NO3-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	30-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP431-240828	E235.NO3-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	30-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4321A-240828	E235.NO3-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	30-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4323-240828	E235.NO3-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	31-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP435-240828	E235.NO3-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	31-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE TRCK-240828	E235.NO3-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	30-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE DUP-SNP431-240828	E235.NO2-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	30-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP431-240828	E235.NO2-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	30-Aug-2024	3 days	2 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 : Nitrite in Water by IC (Low Level)										
HDPE SNP4321A-240828	E235.NO2-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	30-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4323-240828	E235.NO2-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	31-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP435-240828	E235.NO2-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	31-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE TRCK-240828	E235.NO2-L	28-Aug-2024	30-Aug-2024	3 days	2 days	✓	30-Aug-2024	3 days	2 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE DUP-SNP431-240828	E392	28-Aug-2024	----	----	----		04-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP431-240828	E392	28-Aug-2024	----	----	----		04-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4321A-240828	E392	28-Aug-2024	----	----	----		04-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4323-240828	E392	28-Aug-2024	----	----	----		04-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP435-240828	E392	28-Aug-2024	----	----	----		04-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 : Reactive Silica by Colourimetry										
HDPE TRCK-240828	E392	28-Aug-2024	----	----	----		04-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE DUP-SNP431-240828	E235.SO4	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP431-240828	E235.SO4	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4321A-240828	E235.SO4	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4323-240828	E235.SO4	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	31-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP435-240828	E235.SO4	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	31-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TRCK-240828	E235.SO4	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4323-240828	E372-U	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	05-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP435-240828	E372-U	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	05-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: 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)										
TRCK-240828	E372-U	28-Aug-2024	03-Sep-2024	28 days	6 days	✓	05-Sep-2024	28 days	7 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide)										
DUP-SNP431-240828	E333	28-Aug-2024	10-Sep-2024	14 days	13 days	✓	10-Sep-2024	14 days	13 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide)										
SNP431-240828	E333	28-Aug-2024	10-Sep-2024	14 days	13 days	✓	10-Sep-2024	14 days	13 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
DUP-SNP431-240828	E421.Cr-L	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	04-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
SNP431-240828	E421.Cr-L	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	04-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
SNP4321A-240828	E421.Cr-L	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	04-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
SNP4323-240828	E421.Cr-L	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	04-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
SNP435-240828	E421.Cr-L	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	04-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
TRCK-240828	E421.Cr-L	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	04-Sep-2024	180 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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
DUP-SNP431-240828	E509	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP431-240828	E509	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP4321A-240828	E509	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP4323-240828	E509	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP435-240828	E509	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
TRCK-240828	E509	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
DUP-SNP431-240828	E421	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	05-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SNP431-240828	E421	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	05-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SNP4321A-240828	E421	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	05-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
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4323-240828	E421	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	05-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP435-240828	E421	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	05-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TRCK-240828	E421	28-Aug-2024	04-Sep-2024	180 days	7 days	✓	05-Sep-2024	180 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP431-240828	E601	28-Aug-2024	04-Sep-2024	14 days	6 days	✓	05-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) DUP-SNP431-240828	E601	28-Aug-2024	05-Sep-2024	14 days	7 days	✓	05-Sep-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP4321A-240828	E601	28-Aug-2024	05-Sep-2024	14 days	7 days	✓	05-Sep-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP435-240828	E601	28-Aug-2024	05-Sep-2024	14 days	7 days	✓	05-Sep-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP435-240828	E581.VH+F1	28-Aug-2024	04-Sep-2024	14 days	6 days	✓	04-Sep-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) DUP-SNP431-240828	E581.VH+F1	28-Aug-2024	04-Sep-2024	14 days	6 days	✓	04-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 : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP431-240828	E581.VH+F1	28-Aug-2024	04-Sep-2024	14 days	6 days	✓	04-Sep-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP4321A-240828	E581.VH+F1	28-Aug-2024	04-Sep-2024	14 days	6 days	✓	04-Sep-2024	14 days	7 days	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) SNP4321A-240828	FC-MF	28-Aug-2024	----	----	----		29-Aug-2024	30 hrs	13 hrs	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) DUP-SNP431-240828	E358-L	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	03-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP431-240828	E358-L	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	03-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4321A-240828	E358-L	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	03-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4323-240828	E358-L	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	03-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP435-240828	E358-L	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	03-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) TRCK-240828	E358-L	28-Aug-2024	03-Sep-2024	28 days	6 days	✓	03-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: 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)										
DUP-SNP431-240828	E355-L	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	03-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP431-240828	E355-L	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	03-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4321A-240828	E355-L	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	03-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4323-240828	E355-L	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	03-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP435-240828	E355-L	28-Aug-2024	02-Sep-2024	28 days	5 days	✓	03-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
TRCK-240828	E355-L	28-Aug-2024	03-Sep-2024	28 days	6 days	✓	03-Sep-2024	28 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
DUP-SNP431-240828	E290	28-Aug-2024	30-Aug-2024	14 days	2 days	✓	30-Aug-2024	14 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
SNP431-240828	E290	28-Aug-2024	30-Aug-2024	14 days	2 days	✓	30-Aug-2024	14 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
SNP4321A-240828	E290	28-Aug-2024	30-Aug-2024	14 days	2 days	✓	30-Aug-2024	14 days	2 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 TRCK-240828	E290	28-Aug-2024	30-Aug-2024	14 days	2 days	✓	30-Aug-2024	14 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4323-240828	E290	28-Aug-2024	30-Aug-2024	14 days	2 days	✓	02-Sep-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP435-240828	E290	28-Aug-2024	30-Aug-2024	14 days	2 days	✓	02-Sep-2024	14 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-SNP431-240828	E100	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP431-240828	E100	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4321A-240828	E100	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Physical Tests : Conductivity in Water										
HDPE TRCK-240828	E100	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	30-Aug-2024	28 days	2 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4323-240828	E100	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	02-Sep-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP435-240828	E100	28-Aug-2024	30-Aug-2024	28 days	2 days	✓	02-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: Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis: Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE SNP435-240828	E108	28-Aug-2024	30-Aug-2024	0.25 hrs	50 hrs	✗ EHTR-FM	02-Sep-2024	0.25 hrs	110 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4321A-240828	E108	28-Aug-2024	30-Aug-2024	0.25 hrs	50 hrs	✗ EHTR-FM	30-Aug-2024	0.25 hrs	51 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4323-240828	E108	28-Aug-2024	30-Aug-2024	0.25 hrs	51 hrs	✗ EHTR-FM	02-Sep-2024	0.25 hrs	110 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-SNP431-240828	E108	28-Aug-2024	30-Aug-2024	0.25 hrs	51 hrs	✗ EHTR-FM	30-Aug-2024	0.25 hrs	52 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP431-240828	E108	28-Aug-2024	30-Aug-2024	0.25 hrs	51 hrs	✗ EHTR-FM	30-Aug-2024	0.25 hrs	52 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE TRCK-240828	E108	28-Aug-2024	30-Aug-2024	0.25 hrs	52 hrs	✗ EHTR-FM	30-Aug-2024	0.25 hrs	53 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE DUP-SNP431-240828	E162-L	28-Aug-2024	----	----	----		04-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP431-240828	E162-L	28-Aug-2024	----	----	----		04-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4321A-240828	E162-L	28-Aug-2024	----	----	----		04-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 : TDS by Gravimetry (Low Level)										
HDPE SNP4323-240828	E162-L	28-Aug-2024	----	----	----		04-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP435-240828	E162-L	28-Aug-2024	----	----	----		04-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE TRCK-240828	E162-L	28-Aug-2024	----	----	----		04-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] DUP-SNP431-240828	E160-L	28-Aug-2024	----	----	----		04-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP431-240828	E160-L	28-Aug-2024	----	----	----		04-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4321A-240828	E160-L	28-Aug-2024	----	----	----		04-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4323-240828	E160-L	28-Aug-2024	----	----	----		04-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP435-240828	E160-L	28-Aug-2024	----	----	----		04-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] TRCK-240828	E160-L	28-Aug-2024	----	----	----		04-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 : Turbidity by Nephelometry										
HDPE DUP-SNP431-240828	E121	28-Aug-2024	----	----	----		30-Aug-2024	3 days	2 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP431-240828	E121	28-Aug-2024	----	----	----		30-Aug-2024	3 days	2 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4321A-240828	E121	28-Aug-2024	----	----	----		30-Aug-2024	3 days	2 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4323-240828	E121	28-Aug-2024	----	----	----		30-Aug-2024	3 days	2 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP435-240828	E121	28-Aug-2024	----	----	----		30-Aug-2024	3 days	2 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE TRCK-240828	E121	28-Aug-2024	----	----	----		30-Aug-2024	3 days	2 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) DUP-SNP431-240828	E420.Cr-L	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	05-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP431-240828	E420.Cr-L	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	05-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4321A-240828	E420.Cr-L	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	05-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 Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4323-240828	E420.Cr-L	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	05-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP435-240828	E420.Cr-L	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	05-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TRCK-240828	E420.Cr-L	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	05-Sep-2024	180 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) DUP-SNP431-240828	E508	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP431-240828	E508	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4321A-240828	E508	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4323-240828	E508	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP435-240828	E508	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) TRCK-240828	E508	28-Aug-2024	05-Sep-2024	28 days	8 days	✓	05-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) DUP-SNP431-240828	E420	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	06-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP431-240828	E420	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	06-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4321A-240828	E420	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	06-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4323-240828	E420	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	06-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP435-240828	E420	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	06-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TRCK-240828	E420	28-Aug-2024	05-Sep-2024	180 days	8 days	✓	06-Sep-2024	180 days	9 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP435-240828	E611A	28-Aug-2024	04-Sep-2024	14 days	6 days	✓	04-Sep-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) DUP-SNP431-240828	E611A	28-Aug-2024	04-Sep-2024	14 days	6 days	✓	04-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP431-240828	E611A	28-Aug-2024	04-Sep-2024	14 days	6 days	✓	04-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)										
SNP4321A-240828	E611A	28-Aug-2024	04-Sep-2024	14 days	6 days	✓	04-Sep-2024	14 days	7 days	✓

Legend & Qualifier Definitions

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

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	1627304	2	31	6.4	5.0	✓
Ammonia by Fluorescence	E298	1629081	2	34	5.8	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1627316	2	16	12.5	5.0	✓
BTEX by Headspace GC-MS	E611A	1631194	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1627312	2	30	6.6	5.0	✓
Conductivity in Water	E100	1627305	2	33	6.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1631864	1	6	16.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1635796	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1631863	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1629082	2	19	10.5	5.0	✓
Fluoride in Water by IC	E235.F	1627315	2	23	8.7	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1627313	2	26	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1627308	2	35	5.7	5.0	✓
pH by Meter	E108	1627303	2	35	5.7	5.0	✓
Reactive Silica by Colourimetry	E392	1631745	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1627314	2	30	6.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1633483	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1631962	1	10	10.0	5.0	✓
Total Cyanide	E333	1642979	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1635617	2	39	5.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1631960	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1629083	2	19	10.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1629080	2	17	11.7	5.0	✓
Turbidity by Nephelometry	E121	1627385	1	13	7.6	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1631193	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1627304	2	31	6.4	5.0	✓
Ammonia by Fluorescence	E298	1629081	2	34	5.8	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1627316	2	16	12.5	5.0	✓
BTEX by Headspace GC-MS	E611A	1631194	1	8	12.5	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1631169	2	8	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1627312	2	30	6.6	5.0	✓
Conductivity in Water	E100	1627305	2	33	6.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1631864	1	6	16.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1635796	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1631863	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							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1629082	2	19	10.5	5.0	✓
Fluoride in Water by IC	E235.F	1627315	2	23	8.7	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1627313	2	26	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1627308	2	35	5.7	5.0	✓
pH by Meter	E108	1627303	2	35	5.7	5.0	✓
Reactive Silica by Colourimetry	E392	1631745	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1627314	2	30	6.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1633483	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1631962	1	10	10.0	5.0	✓
Total Cyanide	E333	1642979	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1635617	2	39	5.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1631960	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1629083	2	19	10.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1629080	2	17	11.7	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1633479	1	10	10.0	5.0	✓
Turbidity by Nephelometry	E121	1627385	1	13	7.6	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1631193	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1627304	2	31	6.4	5.0	✓
Ammonia by Fluorescence	E298	1629081	2	34	5.8	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1627316	2	16	12.5	5.0	✓
BTEX by Headspace GC-MS	E611A	1631194	1	8	12.5	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1631169	2	8	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1627312	2	30	6.6	5.0	✓
Conductivity in Water	E100	1627305	2	33	6.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1631864	1	6	16.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1635796	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1631863	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1629082	2	19	10.5	5.0	✓
Fluoride in Water by IC	E235.F	1627315	2	23	8.7	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1627313	2	26	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1627308	2	35	5.7	5.0	✓
Reactive Silica by Colourimetry	E392	1631745	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1627314	2	30	6.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1633483	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1631962	1	10	10.0	5.0	✓
Total Cyanide	E333	1642979	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1635617	2	39	5.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1631960	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*
Method Blanks (MB) - Continued							
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1629083	2	19	10.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1629080	2	17	11.7	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1633479	1	10	10.0	5.0	✓
Turbidity by Nephelometry	E121	1627385	1	13	7.6	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1631193	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1629081	2	34	5.8	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1627316	2	16	12.5	5.0	✓
BTEX by Headspace GC-MS	E611A	1631194	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1627312	2	30	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1631864	1	6	16.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1635796	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1631863	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1629082	2	19	10.5	5.0	✓
Fluoride in Water by IC	E235.F	1627315	2	23	8.7	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1627313	2	26	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1627308	2	35	5.7	5.0	✓
Reactive Silica by Colourimetry	E392	1631745	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1627314	2	30	6.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1631962	1	10	10.0	5.0	✓
Total Cyanide	E333	1642979	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1635617	2	39	5.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1631960	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1629083	2	19	10.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1629080	2	17	11.7	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1631193	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.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
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.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
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.
Fluoride in Water by IC	E235.F 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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 Cyanide	E333 ALS Environmental - Waterloo	Water	ISO 14403 (mod)	Total or Strong Acid Dissociable (SAD) Cyanide is determined by Continuous Flow Analyzer (CFA) with in-line UV digestion followed by colourmetric analysis. Method Limitation: High levels of thiocyanate (SCN) may cause positive interference (up to 0.5% of SCN concentration).
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).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and 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 DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
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.
Reactive Silica by Colourimetry	E392 ALS Environmental - Vancouver	Water	APHA 4500-SiO_2 E (mod)	Silicate (molybdate-reactive silica) is determined by the molybdosilicate-heteropoly blue colourimetric method using a discrete analyzer. Method Limitation: Arsenic (5+) above 100 mg/L is a negative interference on this test

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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 Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L 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.
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.
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L ALS Environmental - Vancouver	Water	APHA 3030 B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS
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
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then 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.
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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Vancouver	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
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).
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.
Fecal Coliforms in Water by MF	FC-MF Taiga Environmental Laboratory - 4601 - 52nd Avenue P.O. BOX 1500 Yellowknife Northwest Territories Canada X1A 2R3	Water	APHA 9222D	See attached report.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Vancouver			
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401325**	Page	: 1 of 24
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 29-Aug-2024 09:11
PO	: YEL218	Date Analysis Commenced	: 29-Aug-2024
C-O-C number	: ----	Issue Date	: 19-Sep-2024 10:26
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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*
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Jon Fisher	Production Manager, Environmental	Waterloo Inorganics, Waterloo, Ontario
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Vancouver Inorganics, Burnaby, British Columbia
Oliver Gregg	Client Services Supervisor	Taiga Environmental Laboratory External Subcontracting, Yellowknife, Northwest Territories
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: 1627303)											
VA24C2536-003	Anonymous	pH	----	E108	0.10	pH units	5.49	5.49	0.00%	4%	----
Physical Tests (QC Lot: 1627304)											
VA24C2536-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	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	2.0	mg/L	<2.0	<2.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1627305)											
VA24C2536-003	Anonymous	Conductivity	----	E100	1.0	µS/cm	<1.0	<1.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1627357)											
VA24C2173-001	Anonymous	pH	----	E108	0.10	pH units	8.81	8.81	0.00%	4%	----
Physical Tests (QC Lot: 1627358)											
VA24C2173-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	2580	2570	0.388%	10%	----
Physical Tests (QC Lot: 1627359)											
VA24C2173-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	340	343	0.908%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	32.0	31.4	1.89%	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	16.0	15.7	1.89%	20%	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	372	374	0.670%	20%	----
Physical Tests (QC Lot: 1627385)											
VA24C2499-011	Anonymous	Turbidity	----	E121	0.10	NTU	0.46	0.47	0.009	Diff <2x LOR	----
Physical Tests (QC Lot: 1633483)											
FJ2402605-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	172	172	0.291%	20%	----
Anions and Nutrients (QC Lot: 1627308)											
VA24C2536-001	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: 1627312)											
VA24C2553-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	0.97	0.97	0.0008	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1627313)											
VA24C2553-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Anions and Nutrients (QC Lot: 1627314)											
VA24C2553-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	2.08	2.08	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1627315)											
VA24C2553-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.045	0.046	0.0004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1627316)											
VA24C2553-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1627349)											
YL2401325-007	SNP4323-240828	Fluoride	16984-48-8	E235.F	0.400	mg/L	<0.400	<0.400	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1627350)											
YL2401325-007	SNP4323-240828	Chloride	16887-00-6	E235.Cl	10.0	mg/L	466	460	1.36%	20%	----
Anions and Nutrients (QC Lot: 1627351)											
YL2401325-007	SNP4323-240828	Bromide	24959-67-9	E235.Br-L	1.00	mg/L	5.50	5.38	0.115	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1627352)											
YL2401325-007	SNP4323-240828	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: 1627353)											
YL2401325-007	SNP4323-240828	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: 1627354)											
YL2401325-007	SNP4323-240828	Sulfate (as SO4)	14808-79-8	E235.SO4	6.00	mg/L	1140	1120	1.09%	20%	----
Anions and Nutrients (QC Lot: 1629080)											
VA24C2475-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0083	0.0080	0.0003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1629081)											
VA24C2475-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1629616)											
VA24C1674-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0120	0.0115	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1629617)											
KS2403282-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0116	0.0115	0.00006	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1631745)											
CG2412319-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	1.22	1.34	0.12	Diff <2x LOR	----
Cyanides (QC Lot: 1642979)											
TY2409677-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0020	mg/L	<0.0020	<0.0020	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1629082)											
VA24C2476-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	4.13	4.34	0.22	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1629083)											
VA24C2476-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	4.18	4.24	0.07	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Organic / Inorganic Carbon (QC Lot: 1629614)											
VA24C2214-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1629619)											
VA24C1929-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	2.65	2.74	0.09	Diff <2x LOR	----
Total Metals (QC Lot: 1631960)											
YL2401325-001	TRCK-240828	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0662	0.0682	2.97%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00433	0.00430	0.745%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.127	0.128	0.232%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0407	0.0404	0.571%	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	0.030	0.031	0.001	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	72.0	72.1	0.103%	20%	----
		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	0.00236	0.00234	0.806%	20%	----
		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	0.105	0.100	4.87%	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	0.0139	0.0146	5.05%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	42.3	43.2	1.94%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0401	0.0394	1.71%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000585	0.000564	3.59%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00072	0.00072	0.000002	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	5.87	5.85	0.315%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00324	0.00320	1.35%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000070	0.000053	0.000017	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	2.25	2.13	5.58%	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	43.0	43.1	0.165%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.429	0.424	1.25%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	54.9	52.2	5.14%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1631960) - continued											
YL2401325-001	TRCK-240828	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	0.00270	mg/L	<0.00270	<0.00270	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	0.000900	0.000925	2.72%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00053	0.00053	0.000002	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: 1631962)											
YL2401325-001	TRCK-240828	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00018	0.00029	0.00011	Diff <2x LOR	----
Total Metals (QC Lot: 1635617)											
KS2403558-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1635618)											
YL2401325-008	SNP435-240828	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1631863)											
YL2401325-001	TRCK-240828	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0056	0.0055	0.00007	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00415	0.00409	1.50%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.128	0.130	2.21%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0428	0.0433	1.13%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.028	0.029	0.0008	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	76.4	79.7	4.30%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00233	0.00230	1.16%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00050	0.00048	0.00002	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.037	0.038	0.0004	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0129	0.0136	4.68%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	44.0	45.2	2.62%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0353	0.0362	2.58%	20%	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1631863) - continued											
YL2401325-001	TRCK-240828	Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000537	0.000531	1.06%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00070	0.00066	0.00004	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	6.00	6.13	2.15%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00306	0.00333	8.24%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000088	0.000083	0.000005	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.06	2.14	3.96%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	45.7	46.7	2.16%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.402	0.403	0.0452%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	54.1	52.9	2.33%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000885	0.000863	2.52%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1631864)											
YL2401325-001	TRCK-240828	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1635796)											
VA24C1785-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1635797)											
YL2401325-005	DUP-SNP431-240828	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1631194)											
KS2403514-001	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	----
		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	<0.50	<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	----

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: 1631194) - continued											
KS2403514-001	Anonymous	Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1631193)											
KS2403514-001	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: 1627304)						
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: 1627305)						
Conductivity	----	E100	1	µS/cm	1.5	----
Physical Tests (QCLot: 1627358)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1627359)						
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: 1627385)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1633479)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1633483)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1627308)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1627312)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1627313)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1627314)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1627315)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1627316)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1627316) - continued						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1627349)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1627350)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1627351)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1627352)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1627353)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1627354)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1629080)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1629081)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1629616)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1629617)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1631745)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Cyanides (QCLot: 1642979)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1629082)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1629083)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1629614)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1629619)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1631960)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1631960) - continued						
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	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1631960) - continued						
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: 1631962)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1635617)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1635618)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1631863)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1631863) - continued						
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1631864)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1635796)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1635797)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1631194)						
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	----
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: 1631169)						
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: 1631193)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1633107)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1633107) - continued						
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: 1627303)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1627304)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	90.5	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	101	85.0	115	----
Physical Tests (QCLot: 1627305)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	96.2	90.0	110	----
Physical Tests (QCLot: 1627357)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1627358)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	93.4	90.0	110	----
Physical Tests (QCLot: 1627359)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	111	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1627385)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1633479)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	90.3	85.0	115	----
Physical Tests (QCLot: 1633483)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	99.0	85.0	115	----
Anions and Nutrients (QCLot: 1627308)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	97.8	90.0	110	----
Anions and Nutrients (QCLot: 1627312)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.6	90.0	110	----
Anions and Nutrients (QCLot: 1627313)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	97.9	90.0	110	----
Anions and Nutrients (QCLot: 1627314)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.6	90.0	110	----
Anions and Nutrients (QCLot: 1627315)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	97.2	90.0	110	----
Anions and Nutrients (QCLot: 1627316)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	99.4	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
Anions and Nutrients (QCLot: 1627349)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	94.7	90.0	110	----
Anions and Nutrients (QCLot: 1627350)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 1627351)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	97.1	85.0	115	----
Anions and Nutrients (QCLot: 1627352)									
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: 1627353)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	97.2	90.0	110	----
Anions and Nutrients (QCLot: 1627354)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.9	90.0	110	----
Anions and Nutrients (QCLot: 1629080)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	93.7	80.0	120	----
Anions and Nutrients (QCLot: 1629081)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	97.0	85.0	115	----
Anions and Nutrients (QCLot: 1629616)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	90.5	80.0	120	----
Anions and Nutrients (QCLot: 1629617)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1631745)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	102	85.0	115	----
Cyanides (QCLot: 1642979)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	84.6	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1629082)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	98.6	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1629083)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	101	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1629614)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	97.6	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1629619)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	105	80.0	120	----
Total Metals (QCLot: 1631960)									

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: 1631960) - continued									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	101	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	104	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	99.8	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	97.8	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	93.2	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	94.0	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	101	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	97.5	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	99.5	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	95.8	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	100	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	97.9	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	101	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	99.6	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	98.5	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	99.8	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	107	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	96.3	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	102	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	81.2	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	104	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	98.8	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	95.7	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	104	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 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: 1631960) - continued									
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	97.0	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	99.1	80.0	120	----
Total Metals (QCLot: 1631962)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Total Metals (QCLot: 1635617)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	95.9	80.0	120	----
Total Metals (QCLot: 1635618)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	97.3	80.0	120	----
Dissolved Metals (QCLot: 1631863)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	102	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	98.0	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	109	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	99.4	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	104	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	94.2	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	101	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	102	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	95.5	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	100	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	99.0	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	99.1	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	97.5	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	97.9	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	102	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	99.0	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	102	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	99.8	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	95.1	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	100	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	109	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
Dissolved Metals (QCLot: 1631863) - continued									
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	93.8	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	94.3	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	91.9	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	101	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	97.6	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	104	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	99.3	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	95.4	80.0	120	----
Dissolved Metals (QCLot: 1631864)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	98.7	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	98.2	80.0	120	----
Volatile Organic Compounds (QCLot: 1631194)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	94.4	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	102	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	105	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	103	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	102	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	101	70.0	130	----
Hydrocarbons (QCLot: 1631169)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	114	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	105	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	113	70.0	130	----
Hydrocarbons (QCLot: 1631193)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	89.9	70.0	130	----
Hydrocarbons (QCLot: 1633107)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	122	70.0	130	----

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: 1633107) - continued									
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	113	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	121	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: 1627308)										
VA24C2536-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.500 mg/L	0.5 mg/L	99.9	75.0	125	----
Anions and Nutrients (QCLot: 1627312)										
VA24C2553-002	Anonymous	Chloride	16887-00-6	E235.Cl	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1627313)										
VA24C2553-002	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: 1627314)										
VA24C2553-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1627315)										
VA24C2553-002	Anonymous	Fluoride	16984-48-8	E235.F	1.00 mg/L	1 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1627316)										
VA24C2553-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.509 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1627349)										
VA24C2170-001	Anonymous	Fluoride	16984-48-8	E235.F	0.933 mg/L	1 mg/L	93.3	75.0	125	----
Anions and Nutrients (QCLot: 1627350)										
VA24C2170-001	Anonymous	Chloride	16887-00-6	E235.Cl	99.9 mg/L	100 mg/L	99.9	75.0	125	----
Anions and Nutrients (QCLot: 1627351)										
VA24C2570-001	Anonymous	Bromide	24959-67-9	E235.Br-L	9.34 mg/L	10 mg/L	93.4	75.0	125	----
Anions and Nutrients (QCLot: 1627352)										
VA24C2170-001	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: 1627353)										
VA24C2170-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.476 mg/L	0.5 mg/L	95.2	75.0	125	----
Anions and Nutrients (QCLot: 1627354)										
VA24C2170-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1629080)										
VA24C2475-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0484 mg/L	0.05 mg/L	96.9	70.0	130	----
Anions and Nutrients (QCLot: 1629081)										
VA24C2475-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0868 mg/L	0.1 mg/L	86.8	75.0	125	----
Anions and Nutrients (QCLot: 1629616)										
VA24C1929-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0489 mg/L	0.05 mg/L	97.7	70.0	130	----
Anions and Nutrients (QCLot: 1629617)										

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: 1629617) - continued										
VA24C1929-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0929 mg/L	0.1 mg/L	92.9	75.0	125	----
Anions and Nutrients (QCLot: 1631745)										
VA24C2269-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.1 mg/L	10 mg/L	101	75.0	125	----
Cyanides (QCLot: 1642979)										
TY2409677-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.206 mg/L	0.25 mg/L	82.4	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1629082)										
YL2401325-004	SNP431-240828	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1629083)										
YL2401325-004	SNP431-240828	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1629614)										
VA24C2656-018	Anonymous	Carbon, total organic [TOC]	----	E355-L	4.53 mg/L	5 mg/L	90.6	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1629619)										
VA24C1930-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.46 mg/L	5 mg/L	89.2	70.0	130	----
Total Metals (QCLot: 1631960)										
YL2401325-004	SNP431-240828	Aluminum, total	7429-90-5	E420	0.375 mg/L	0.4 mg/L	93.7	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	0.0358 mg/L	0.04 mg/L	89.4	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0690 mg/L	0.08 mg/L	86.3	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0180 mg/L	0.02 mg/L	90.2	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00758 mg/L	0.008 mg/L	94.8	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0194 mg/L	0.02 mg/L	96.9	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0739 mg/L	0.08 mg/L	92.4	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0354 mg/L	0.04 mg/L	88.4	70.0	130	----
		Copper, total	7440-50-8	E420	0.0340 mg/L	0.04 mg/L	85.1	70.0	130	----
		Iron, total	7439-89-6	E420	3.61 mg/L	4 mg/L	90.3	70.0	130	----
		Lead, total	7439-92-1	E420	0.0374 mg/L	0.04 mg/L	93.6	70.0	130	----
		Lithium, total	7439-93-2	E420	0.179 mg/L	0.2 mg/L	89.5	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0362 mg/L	0.04 mg/L	90.5	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0709 mg/L	0.08 mg/L	88.6	70.0	130	----
		Phosphorus, total	7723-14-0	E420	20.8 mg/L	20 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	0.0374 mg/L	0.04 mg/L	93.6	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0774 mg/L	0.08 mg/L	96.8	70.0	130	----
		Silicon, total	7440-21-3	E420	18.2 mg/L	20 mg/L	91.0	70.0	130	----
		Silver, total	7440-22-4	E420	0.00764 mg/L	0.008 mg/L	95.4	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: 1631960) - continued										
YL2401325-004	SNP431-240828	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	0.0771 mg/L	0.08 mg/L	96.4	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00712 mg/L	0.008 mg/L	89.0	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0292 mg/L	0.04 mg/L	73.1	70.0	130	----
		Tin, total	7440-31-5	E420	0.0394 mg/L	0.04 mg/L	98.5	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0780 mg/L	0.08 mg/L	97.6	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0395 mg/L	0.04 mg/L	98.7	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00794 mg/L	0.008 mg/L	99.3	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.195 mg/L	0.2 mg/L	97.7	70.0	130	----
		Zinc, total	7440-66-6	E420	0.690 mg/L	0.8 mg/L	86.3	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0803 mg/L	0.08 mg/L	100	70.0	130	----
Total Metals (QCLot: 1631962)										
YL2401325-004	SNP431-240828	Chromium, total	7440-47-3	E420.Cr-L	0.0739 mg/L	0.08 mg/L	92.4	70.0	130	----
Total Metals (QCLot: 1635617)										
VA24C1785-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000942 mg/L	0 mg/L	94.2	70.0	130	----
Total Metals (QCLot: 1635618)										
YL2401328-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000963 mg/L	0 mg/L	96.3	70.0	130	----
Dissolved Metals (QCLot: 1631863)										
YL2401325-004	SNP431-240828	Aluminum, dissolved	7429-90-5	E421	0.397 mg/L	0.4 mg/L	99.2	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	ND mg/L	----	ND	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	ND mg/L	----	ND	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0736 mg/L	0.08 mg/L	92.0	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0180 mg/L	0.02 mg/L	89.9	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00764 mg/L	0.008 mg/L	95.5	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0804 mg/L	0.08 mg/L	100	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0375 mg/L	0.04 mg/L	93.7	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0374 mg/L	0.04 mg/L	93.5	70.0	130	----
		Iron, dissolved	7439-89-6	E421	3.84 mg/L	4 mg/L	96.0	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0360 mg/L	0.04 mg/L	90.1	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.178 mg/L	0.2 mg/L	89.1	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0378 mg/L	0.04 mg/L	94.5	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0410 mg/L	0.04 mg/L	103	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0737 mg/L	0.08 mg/L	92.1	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	20.1 mg/L	20 mg/L	100	70.0	130	----
		Potassium, dissolved	7440-09-7	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
Dissolved Metals (QCLot: 1631863) - continued										
YL2401325-004	SNP431-240828	Rubidium, dissolved	7440-17-7	E421	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0835 mg/L	0.08 mg/L	104	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	20.1 mg/L	20 mg/L	101	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00787 mg/L	0.008 mg/L	98.4	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0808 mg/L	0.08 mg/L	101	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00734 mg/L	0.008 mg/L	91.8	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0303 mg/L	0.04 mg/L	75.6	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0399 mg/L	0.04 mg/L	99.9	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0810 mg/L	0.08 mg/L	101	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00779 mg/L	0.008 mg/L	97.4	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.206 mg/L	0.2 mg/L	103	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.783 mg/L	0.8 mg/L	97.9	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0817 mg/L	0.08 mg/L	102	70.0	130	----
Dissolved Metals (QCLot: 1631864)										
YL2401325-004	SNP431-240828	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0804 mg/L	0.08 mg/L	100	70.0	130	----
Dissolved Metals (QCLot: 1635796)										
VA24C2099-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000974 mg/L	0 mg/L	97.4	70.0	130	----
Dissolved Metals (QCLot: 1635797)										
YL2401325-006	SNP4321A-240828	Mercury, dissolved	7439-97-6	E509	0.0000967 mg/L	0 mg/L	96.7	70.0	130	----
Volatile Organic Compounds (QCLot: 1631194)										
VA24C2720-001	Anonymous	Benzene	71-43-2	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Ethylbenzene	100-41-4	E611A	100 µg/L	100 µg/L	100	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	107 µg/L	100 µg/L	107	60.0	140	----
		Styrene	100-42-5	E611A	103 µg/L	100 µg/L	103	60.0	140	----
		Toluene	108-88-3	E611A	99.9 µg/L	100 µg/L	99.9	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	203 µg/L	200 µg/L	102	60.0	140	----
		Xylene, o-	95-47-6	E611A	101 µg/L	100 µg/L	101	60.0	140	----
Hydrocarbons (QCLot: 1631193)										
VA24C2180-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5060 µg/L	6310 µg/L	80.2	60.0	140	----

Taiga Batch No.:
241321

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

- FINAL REPORT -

Prepared For: ALS Environmental

Address: 314 Old Airport Road
Unit 116
Yellowknife,NT
X1A 2R1

Attn: **Oliver Gregg** **Facsimile:**

Final report has been reviewed and approved by:

Bradley Koswan
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.
- BC MOE accepts a hold time of 30 hours for Coliforms and Enterococcus in all water sample types.

ReportDate: 4-Sep-24
Print Date: *4-Sep-24*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 241321

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401325-006 SNP4321A-240828 **Taiga Sample ID:** 001

Client Project:
Sample Type: Water
Received Date: 29-Aug-24
Sampling Date: 28-Aug-24
Sampling Time: 19:48
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	29-Aug-24	TEL017	

ReportDate: 4-Sep-24
Print Date: *4-Sep-24*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: **241321**

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **YL2401325-006 SNP4321A-240828** **Taiga Sample ID:** **001**

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater
EPA - United States Environmental Protection Agency

ReportDate: 4-Sep-24
Print Date: *4-Sep-24*

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 689-8957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples for Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
cparkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@nrcan-rncan.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@twsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original Signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife NT X1A 0G5
Telephone: (867) 689-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrcons-ltd.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:		As required - Marked on bottle								
√ = Field Filtered:		As required - Marked on bottle								
√ = Standard TAT:		√	√	√	√	√	√	√	√	√
√ = 1-Day Rush:										

Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Total Ammonia
TRCK-240828	TR-CK	28-Aug-24	17:49	Water			G	8	X	X	X		X				
SNP431-G-240828	SNP 43-1	28-Aug-24	18:54	Water			G	1									X
FB-SNP431-G-240828	SNP 43-1	28-Aug-24	18:54	Water			G	1									X
SNP431-240828	SNP 43-1	28-Aug-24	19:14	Water			C	13	X	X	X	X		X			
DUP-SNP431-240828	SNP 43-1	28-Aug-24	19:14	Water			C	13	X	X	X	X		X			
SNP4321A-240828	SNP 43-21A	28-Aug-24	19:48	Water			C	13	X	X	X	X			X		
SNP4323-240828	SNP 43-23	28-Aug-24	20:49	Water			G	8	X	X	X		X				
SNP435-240828	SNP 43-5	28-Aug-24	21:03	Water			G	12	X	X	X	X	X				

Environmental Division
Yellowknife
Work Order Reference
YL2401325

Telephone : +1 867 873 5593

Relinquished by (Sampler Signature): Keenan Kakfwi — **Date/Time:** 2024-August-29 9:11 — **Company:** SLR Consulting

Received by (Name): Simon Arlooktuo — **Received by (Signature)** — **Company:** ALS AUG 29/24

SAMPLE CONDITION (lab use only)

Sample Receipt Temperature (deg. C): 5.1

Samples Received in Good Condition? Yes / No (If no, provide details.)

On cooling media: Y / N

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2400933**	Page	: 1 of 3
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 17-Jul-2024 13:05
PO	: YEL218	Date Analysis Commenced	: 11-Sep-2024
C-O-C number	: ----	Issue Date	: 11-Sep-2024 14:23
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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*
Oliver Gregg	Cleint Services Supervisor	External Subcontracting, 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

<: 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)				Client sample ID	SNP431-Acute-240717	SNP431-Sublethal-240717	----	----	----
				Client sampling date / time	17-Jul-2024 12:02	17-Jul-2024 12:02	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2400933-001	YL2400933-002	--------	--------	--------
					Result	Result	----	----	----
Bioassays									
Ceriodaphnia dubia, LC50	----	CER-LC50-7d/2F	-	-	----	see attached	----	----	----
Daphnia magna LC50	----	DAP-LC50-48/2F	-	-	See attached	----	----	----	----
Fathead minnow, biomass	n/a	FAT-LC50-7d/2F	-	-	----	See attached	----	----	----
Fathead minnow, survival	n/a	FAT-LC50-7d/2F	-	-	----	See attached	----	----	----
Green algae, growth	n/a	ALG-IC50-72h/2F	-	-	----	See attached	----	----	----
Green algae, IC50	----	ALG-IC50-72h/2F	-	-	----	see attached	----	----	----
Lemna minor, dry weight	n/a	LEM-IC50-7d/2F	-	-	----	See attached	----	----	----
Lemna minor, frond count	n/a	LEM-IC50-7d/2F	-	-	----	See attached	----	----	----
Trout bioassay LC50	----	TRT-LC50-96/2F	-	-	See attached	----	----	----	----
Ceriodaphnia dubia ICp	n/a	CER-LC50-7d/2F	-	-	----	see attached	----	----	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2400933**	Page	: 1 of 5
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 17-Jul-2024 13:05
PO	: YEL218	Issue Date	: 11-Sep-2024 14:23
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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 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	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
Container / Client Sample ID(s)			*Preparation Date*	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Bioassays : Growth/IC Green Algae (P. subcapitata) 72 hour										
LDPE carboy SNP431-Sublethal-240717	ALG-IC50-72h	17-Jul-2024	----	----	----		11-Sep-2024	----	56 days	
Bioassays : Growth/IC Lemna Minor (Duckweed) 7 days										
LDPE carboy SNP431-Sublethal-240717	LEM-IC50-7d	17-Jul-2024	----	----	----		11-Sep-2024	----	56 days	
Bioassays : Survival/Growth/LC50/IC Fathead Minnow (P. promelas) 7 Days										
LDPE carboy SNP431-Sublethal-240717	FAT-LC50-7d	17-Jul-2024	----	----	----		11-Sep-2024	----	56 days	
Bioassays : Survival/LC50 and Reproduction (ICp) of Ceriodaphnia dubia to Effluents 7 days										
LDPE carboy SNP431-Sublethal-240717	CER-LC50-7d	17-Jul-2024	----	----	----		11-Sep-2024	----	56 days	
Bioassays : Survival/LC50 Daphnia Magna 48 hours										
LDPE carboy SNP431-Acute-240717	DAP-LC50-48	17-Jul-2024	----	----	----		11-Sep-2024	5 days	56 days	× EHT
Bioassays : Survival/LC50 Rainbow Trout (96 hours)										
LDPE carboy SNP431-Acute-240717	TRT-LC50-96	17-Jul-2024	----	----	----		11-Sep-2024	5 days	56 days	× EHT

Legend & Qualifier Definitions

EHT: Exceeded ALS recommended hold time prior to analysis.

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

Quality Control Parameter Frequency Compliance

- **No Quality Control data available for this section.**

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
Growth/IC Green Algae (P. subcapitata) 72 hour	ALG-IC50-72h Nautilus Environmental (Calgary) - 10828 27 Street SE Calgary Alberta Canada T2Z 3V9	Water	EPS1/RM/25	See attached report.
Survival/LC50 and Reproduction (ICp) of Ceriodaphnia dubia to Effluents 7 days	CER-LC50-7d Nautilus Environmental (Calgary) - 10828 27 Street SE Calgary Alberta Canada T2Z 3V9	Water	EPS1/RM/21	See attached report.
Survival/LC50 Daphnia Magna 48 hours	DAP-LC50-48 Nautilus Environmental (Calgary) - 10828 27 Street SE Calgary Alberta Canada T2Z 3V9	Water	EPS1/RM/14	See attached report.
Survival/Growth/LC50/IC Fathead Minnow (P. promelas) 7 Days	FAT-LC50-7d Nautilus Environmental (Calgary) - 10828 27 Street SE Calgary Alberta Canada T2Z 3V9	Water	EPS1/RM/22	See attached report
Growth/IC Lemna Minor (Duckweed) 7 days	LEM-IC50-7d Nautilus Environmental (Calgary) - 10828 27 Street SE Calgary Alberta Canada T2Z 3V9	Water	EPS1/RM/37	See attached report.
Survival/LC50 Rainbow Trout (96 hours)	TRT-LC50-96	Water	EPS1/RM/13	See attached report.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	Nautilus Environmental (Calgary) - 10828 27 Street SE Calgary Alberta Canada T2Z 3V9			

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QUALITY CONTROL REPORT

Work Order	: **YL2400933**	Page	: 1 of 2
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
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Project	: 208.030049.00001	Date Samples Received	: 17-Jul-2024 13:05
PO	: YEL218	Date Analysis Commenced	: 11-Sep-2024
C-O-C number	: ----	Issue Date	: 11-Sep-2024 14:23
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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:

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*
Oliver Gregg	Cleint Services Supervisor	Nautilus Environmental (Calgary) External Subcontracting, 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.

Toxicity Test Results

YL2400933-001 SNP431-Acute-240717 and
YL2400933-002 SNP431-Sublethal-240717

Final Report

September 11, 2024

Submitted to: **ALS Environmental**
Yellowknife, NT

10823 27 Street SE, Calgary, AB T2Z 3V9

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APPENDIX G – Chain-of-Custody Forms

SIGNATURE PAGE

Report By: Lily Cole, BSc BIT Laboratory Biologist	Reviewed By: Leila Oosterbroek, P Biol Environmental Scientist

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

SUMMARY

Sample and Test Type Information

Sample ID (Internal ID)	YL2400933-001 SNP431-Acute-240717 (2324-2644-01) YL2400933-002 SNP431-Sublethal-240717 (2324-2644-02)
Sample collection date	2024-07-17
Sample receipt date	2024-07-18
Sample receipt temperature	19.4°C 18.7°C
Test types	72-h *Pseudokirchneriella subcapitata* growth inhibition 5 – 8 day *Ceriodaphnia dubia* survival and reproduction 7-d *Pimephales promelas* survival and biomass 7-d *Lemna minor* growth inhibition 96-hour *Oncorhynchus mykiss* survival 48-hour *Daphnia magna* survival

Summary of Results

Endpoint	% v/v (95% CL)	
	YL2400933-001 SNP431-Acute-240717	YL2400933-002 SNP431-Sublethal-240717
P. subcapitata		
Cell Yield IC25	-	>91
C. dubia		
Survival LC50	-	>100
Reproduction IC25	-	8.7 (<1.6 – NA)
P. promelas		
Survival LC50	-	>100
Biomass IC25	-	>100
L. minor		
Frond Number IC25	-	53.9 (42.0 – 65.9)
Dry Weight IC25	-	47.3 (32.2 – 66.1)
O. mykiss		
Survival LC50	>100	-
D. magna		
Survival LC50	>100	-
Immobility EC50	>100	-

LC = Lethal Concentration, IC = Inhibition Concentration, EC = Effect Concentration, CL = Confidence Limit, NA = Not Available

1.0 INTRODUCTION

Nautilus Environmental Company Inc. conducted toxicity tests for ALS Environmental. Samples YL2400933-001 SNP431-Acute-240717 and YL2400933-002 SNP431-Sublethal-240717 were collected on July 17, 2024, and delivered to the Nautilus Environmental laboratory in Calgary, AB on July 18, 2024. The samples were transported in two 20-L plastic containers and five 10-L plastic containers and was received at temperatures of 19.4°C and 18.7°C, respectively. Testing was initiated on July 19, 2024, for all species. The samples were stored in the dark at 4 ± 2°C prior to testing.

The following toxicity tests were performed on sample YL2400933-001 SNP431-Acute-240717:

- 96-hour *Oncorhynchus mykiss* survival
- 48-hour *Daphnia magna* survival

The following toxicity tests were performed on sample YL2400933-002 SNP431-Sublethal-240717:

- 72-h *Pseudokirchneriella subcapitata* growth inhibition
- *Ceriodaphnia dubia* survival and reproduction
- 7-d *Pimephales promelas* survival and biomass
- 7-d *Lemna minor* growth inhibition

This report describes the results of these toxicity tests. Copies of raw laboratory data sheets and statistical analyses for each test species are provided in Appendices A to F. The chain-of-custody form is provided in Appendix G.

2.0 METHODS

Methods for the toxicity tests are summarized in Tables 1 to 6. Testing was conducted according to procedures described by the Environment Canada protocols (2000a, 2000b, 2007a, 2007b, 2007c, 2011). Statistical analyses for all tests were performed using CETIS (Tidepool Scientific Software, version 2.1.5.5).

Table 1. Summary of test conditions: *Pseudokirchneriella subcapitata* growth inhibition test.

Test species	*Pseudokirchneriella subcapitata*[1], strain UTCC# 37
Organism source	In-house axenic culture, obtained from Canadian Phycological Culture Center
Organism age	3-to 7-day old culture in logarithmic growth phase
Test type	Static
Test duration	72 hours
Test vessel	Microplate
Test volume	220 µL
Test solution depth	11 mm
Test concentrations	10 concentrations, at least 6 enumerated, plus laboratory control
Test replicates	5 per treatment, at least 3 enumerated; 8 for control
Number of organisms	10,000 +/- 1000 cells/mL
Control/dilution water	85% deionized water; 15% City of Calgary dechlorinated tap water supplemented with nutrients
Test solution renewal	None
Test temperature	24 ± 2°C
Feeding	None
Light intensity	3600 to 4400 lux
Photoperiod	24 hours light
Aeration	None
Test measurements	pH of 91% and control at test initiation and test completion; light levels and temperature measured daily
Test protocol	Environment Canada (2007), EPS 1/RM/25
Statistical software	CETIS version 2.1.5.5
Test endpoints	Algal cell growth inhibition
Test acceptability criteria for controls	>16-fold increase in number of algal cells; CV ≤ 20%; no trend when analyzed using Mann-Kendall test
Reference toxicant	Zinc (added as $ZnSO_4$)

[1]*Pseudokirchneriella subcapitata* (Korschikov) Hindák (OECD, 2011) has recently been renamed *Raphidocelis subcapitata* (Guiry and Guiry, 2018) and was formerly known as *Selenastrum capricornutum*. *P. subcapitata* is used throughout this document because it is being used in the EPS 1/RM/25 (EC, 2007) and OECD 201 (2011) test methods. *P. subcapitata* is currently regarded as a synonym of *R. subcapitata.*

Table 2. Summary of test conditions: *Ceriodaphnia dubia* survival and reproduction test.

Test species	*Ceriodaphnia dubia*
Organism source	In-house culture
Organism age	<24-hour old neonates, produced within a 12-hour window
Test type	Static renewal
Test duration	5 – 8 days
Test vessel	16 x 135 mm glass test tube
Test volume	15 mL
Test solution depth	10 cm
Test concentrations	Seven concentrations, plus laboratory control
Test replicates	10 per treatment
Number of organisms	1 per replicate
Control/dilution water	22.5% Perrier water and 77.5% deionized reverse osmosis water supplemented with vitamin B12 (2µg/L) and Na_2SeO_4 (5µg Se/L)
Test solution renewal	Daily (100% renewal)
Test temperature	25 ± 1°C
Feeding	Daily with *Pseudokirchneriella subcapitata* and YCT
Light intensity	100 to 600 lux at water surface
Photoperiod	16 hours light/8 hours dark
Aeration	None
Test measurements	pH, conductivity, dissolved oxygen, and temperature measured daily; evaluated for survival and reproduction daily
Test protocol	Environment Canada (2007), EPS 1/RM/21
Statistical software	CETIS version 2.1.5.5
Test endpoints	Survival and reproduction
Test acceptability criteria for controls	≥80% survival; ≥15 young per surviving control producing three broods; ≥60% of controls producing three or more broods, no ephippia present
Reference toxicant	Sodium chloride (NaCl)

Table 3. Summary of test conditions: fathead minnow *(Pimephales promelas)* survival and growth test.

Test species	*Pimephales promelas*
Organism source	Aquatox Inc., Hot Springs, Arkansas
Organism age	<24 hours post hatch
Test type	Static renewal
Test duration	7 days
Test vessel	385 mL plastic containers
Test volume	250 mL
Test solution depth	6.5 cm
Test concentrations	Seven concentrations, plus laboratory control
Test replicates	4 per treatment
Number of organisms	10 per replicate
Control/dilution water	De-chlorinated City of Calgary tap water amended with 4 mg/L KCl
Test solution renewal	Daily (80% renewal)
Test temperature	25 ± 1°C
Feeding	Twice each day with approximately 1500-2250 newly hatched brine shrimp *(Artemia nauplii)* per 10 fish.
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	pH, conductivity, dissolved oxygen, and temperature were measured daily; evaluated for survival daily
Test protocol	Environment Canada (2011), EPS 1/RM/22
Statistical software	CETIS version 2.1.5.5
Test endpoints	Survival and biomass
Test acceptability criteria for controls	≥80% survival, ≥0.25 mg mean dry weight
Reference toxicant	Sodium chloride (NaCl)

Table 4. Summary of test conditions: *Lemna minor* growth inhibition test.

Test species	*Lemna minor*, UTCC 492, clone 7730
Organism source	In-house axenic culture, ≥ 3 weeks in age
Culturing medium	Modified Hoagland's E+ medium
Organism age	7-to 10-day old culture
Test type	Static
Test duration	7 days
Test vessel	200- mL polyethylene plastic container
Test volume	150 mL
Test solution depth	4 cm
Test concentrations	Seven concentrations, plus laboratory control
Test replicates	4 per treatment
Number of organisms	Two 3-frond plants per replicate
Control/dilution water	Modified APHA media prepared with deionized reverse osmosis water, 255 mg/L $NaNO_3$, 150 mg/L $NaHCO_3$, 10.4 mg/L K_2HPO_4, 10.1 mg/L KCl, 44.1 mg/L $CaCl_2{\cdot}2H_2O$, 121.7 mg/L $MgCl_2{\cdot}6H_2O$, 4.149 mg/L $MnCl_2{\cdot}4H_2O$, 1.6 mg/L $FeCl_3{\cdot}6H_2O$, 147 mg/L $MgSO_4{\cdot}7H_2O$, 1.86 mg/L H_3BO_3, 0.0726 mg/L $Na_2MoO_4{\cdot}2H_2O$, 0.0327 mg/L $ZnCl_2$, 0.014 mg/L $CoCl_2{\cdot}6H2O$, 0.00015 mg/L $CuCl_2{\cdot}2H_2O$
Nutrient spike	255 mg/L $NaNO_3$, 150 mg/L $NaHCO_3$, 10.4 mg/L K_2HPO_4, 10.1 mg/L KCl, 44.1 mg/L $CaCl_2{\cdot}2H_2O$, 121.7 mg/L $MgCl_2{\cdot}6H_2O$, 4.149 mg/L $MnCl_2{\cdot}4H_2O$, 1.6 mg/L $FeCl_3{\cdot}6H_2O$, 147 mg/L $MgSO_4{\cdot}7H_2O$, 1.86 mg/L H_3BO_3, 0.0726 mg/L $Na_2MoO_4{\cdot}2H_2O$, 0.0327 mg/L $ZnCl_2$, 0.014 mg/L $CoCl_2{\cdot}6H2O$, 0.00015 mg/L $CuCl_2{\cdot}2H_2O$ added to the sample
Test solution renewal	None
Test temperature	25 ± 2°C
Feeding	None
Light intensity	4000 to 5600 lux
Photoperiod	24 hours light
Aeration	Sample pre-aerated for 20 minutes at 100 bubbles per minute
Test measurements	pH, conductivity, dissolved oxygen measured at test initiation and termination; temperature and light levels measured daily
Test protocol	Environment Canada (2007), EPS 1/RM/37
Statistical software	CETIS version 2.1.5.5
Test endpoints	Number of fronds and dry weight
Test acceptability criterion for controls	≥ 8-fold increase in number of fronds
Reference toxicant	Potassium chloride (KCl)

Table 5. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) survival test.

Test species	*Oncorhynchus mykiss*
Organism source	Fish Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	5-gallon glass aquariums
Test volume	10 – 20 L, depending on size of fish
Test solution depth	Minimum 15 cm
Test concentrations	Five concentrations, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	De-chlorinated City of Calgary tap water
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light/8 hours dark
Aeration	6.5 ±1 mL/min/L
Test Measurements	pH, conductivity, dissolved oxygen, and temperature were measured at test initiation and test completion; salinity measured at test initiation; evaluated for survival daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007, 2016, & 2023 amendments
Statistical software	None
Test endpoints	96-hour LC50
Test acceptability criterion for controls	Survival ≥ 90%
Reference toxicant	Potassium chloride (KCl)

Table 6. Summary of test conditions: 48-h *Daphnia magna* survival test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24 hours
Test type	Static
Test duration	48 hours
Test vessel	375 mL glass vessels
Test volume	150 mL
Test concentrations	Five concentrations, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	De-chlorinated City of Calgary tap water amended with 4 mg/L KCl and with B12 (2 µg/L) and Na_2SeO_4 (2 µg Se/L)
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light/8 hours dark
Aeration	None
Test measurements	pH, conductivity, dissolved oxygen, and temperature measured at test initiation and completion; salinity and hardness measured at test initiation in undiluted sample; evaluated daily for survival
Test protocol	Environment Canada (2000), EPS 1/RM/14 with 2016 amendments
Statistical software	None
Test endpoints	48-h LC50
Test acceptability criterion for controls	Survival ≥ 90%
Reference toxicant	Sodium chloride (NaCl)

3.0 RESULTS

Results of the toxicity tests are summarized in Tables 7 to 12 for samples YL2400933-001 SNP431-Acute-240717 and YL2400933-002 SNP431-Sublethal-240717.

For sample YL2400933-002 SNP431-Sublethal-240717, no stimulatory effects were observed for *P. subcapitata* cell yield, resulting in an IC25 value of >91% (Table 7). There were no adverse effects observed on the survival of *C. dubia*, resulting in an LC50 >100%; however, adverse effects were observed on reproduction resulting in an IC25 of 8.7% (Table 8). No adverse effects were observed on survival or biomass of *P. promelas* resulting in an LC50 and IC25 of >100% (Table 9). Inhibitory effects on frond growth and dry weight of *L. minor* were observed; the IC25 for frond growth was 53.9%, and the IC25 for dry weight was 47.3% (Table 10).

For sample YL2400933-001 SNP431-001-Acute-20240717, no adverse effects were observed on the survival of *O. mykiss*; the resulting LC50 value was >100% (Table 11). No adverse effects were observed on the survival or mobility of *D. magna*; the resulting LC50 and EC50 values were both >100% (Table 12).

Table 7. YL2400933-002 SNP431-Sublethal-240717 results: *Pseudokirchneriella subcapitata* growth inhibition test.

Concentration (% v/v)	Cell Yield (x 10^3 cells/mL) (Mean ± SD)	Stimulation %
Laboratory Control	214.2 ± 22.4	-
2.8	194.0 ± 15.9	-9.5
5.7	158.0 ± 21.6	-26.3
11.4	146.0 ± 12.0	-31.9
22.8	138.0 ± 22.7	-35.6
45.5	180.0 ± 80.6	-16.0
91.0	206.0 ± 6.0	-3.9
Test endpoint (% v/v)		
IC25	>91	-

SD = Standard Deviation, IC = Inhibition Concentration

Table 8. YL2400933-002 SNP431-Sublethal-240717 results: *Ceriodaphnia dubia* survival and reproduction test.

Concentration (% v/v)	Survival (%)	Reproduction (Mean ± SD)
Laboratory Control	90	21.8 ± 10.2
1.56	100	16.3 ± 7.2
3.12	90	17.1 ± 9.6
6.25	100	19.6 ± 7.7
12.5	80	13.2 ± 7.0
25	90	9.4 ± 4.9
50	80	18.8 ± 10.4
100	100	17.2 ± 3.9
Test endpoint (% v/v)		
LC50	>100	--
IC25 (95% CL)	--	8.7 (<1.6 – NA)

SD = Standard Deviation, LC = Lethal Concentration, IC = Inhibition Concentration, CL=Confidence Limit, NA = Not Available

Table 9. YL2400933-002 SNP431-Sublethal-240717 results: fathead minnow (*Pimephales promelas)* survival and biomass test.

Concentration (% v/v)	Survival (%) (Mean ± SD)	Biomass (mg) (Mean ± SD)
Laboratory Control	97.5 ± 5.0	0.47 ± 0.04
1.56	97.5 ± 5.0	0.44 ± 0.04
3.12	95.0 ± 10.0	0.41 ± 0.06
6.25	100.0 ± 0.0	0.47 ± 0.04
12.5	92.5 ± 9.6	0.46 ± 0.04
25	97.5 ± 5.0	0.43 ± 0.03
50	97.5 ± 5.0	0.49 ± 0.08
100	97.5 ± 5.0	0.45 ± 0.02
Test endpoint (% v/v)		
LC50	>100	--
IC25	--	>100

SD = Standard Deviation, LC = Lethal Concentration, IC = Inhibition Concentration

Table 10. YL2400933-002 SNP431-Sublethal-240717 results: *Lemna minor* growth inhibition test.

Concentration (% v/v)	Frond Growth (Increase in Frond No.) (Mean ± SD)	Stimulation %	Dry Weight (mg) (Mean ± SD)	Stimulation %
Laboratory Control	52.3 ± 3.3	-	6.6 ± 0.6	-
1.5	53.5 ± 2.6	2.4	6.6 ± 0.5	-0.6
3.0	51.5 ± 5.9	-1.4	6.3 ± 0.7	-4.8
6.1	47.8 ± 3.0	-8.6	5.7 ± 0.5	-13.9
12.1	48.8 ± 1.7	-6.7	5.8 ± 0.3	-12.2
24.2	47.0 ± 4.8	-10.1	5.6 ± 0.8	-14.9
48.5	41.0 ± 7.2	-21.5	4.9 ± 0.5	-25.3
97.0	27.5 ± 5.4	-47.4	4.3 ± 0.3	-34.6
Test endpoint (% v/v)				
IC25 (95% CL)	53.9 (42.0 – 65.9)	-	47.3 (32.2 – 66.1)	-

SD = Standard Deviation, IC = Inhibition Concentration

Table 11. YL2400933-001 SNP431-Acute-240717 results: Rainbow trout survival test.

Concentration (% v/v)	Survival (%)
Laboratory Control	100
6.25	100
12.5	100
25	100
50	100
100	100
Test endpoint (% v/v)	
LC50	>100

LC = Lethal Concentration

Table 12. YL2400933-001 SNP431-Acute-240717 results: *Daphnia magna* survival test.

Concentration (% v/v)	Survival (%)	Immobility (%)
Laboratory Control	100	0
6.25	100	0
12.5	100	0
25	100	0
50	100	0
100	100	0
Test endpoint (% v/v)		
LC50	>100	-
EC50	-	>100

LC = Lethal Concentration, EC = Effect Concentration

4.0 QA/QC

The health histories of the test organisms used in the exposures were acceptable and met the requirements of the Environment Canada protocols. The tests met all control acceptability criteria and water quality parameters remained within ranges specified in the protocols throughout the tests. In the *Pseudokirchneriella subcapitata* test, only six concentrations instead of the required seven were enumerated. However, the result is considered valid as the endpoint was able to be determined appropriately. In the *P. promelas* test, nine test organisms were found in replicate D of the 3.2% test concentration at the day one observation period. Finally, in the *P. promelas* test, the test fish were only fed once on 2024/07/20 (day one of testing) due to insufficient hatching of nauplii. There were no further deviations from the test methodologies and the results are considered valid. Uncertainty associated with these tests is best described by the standard deviations around the means.

Results of the reference toxicant tests conducted during the testing program are summarized in Table 13. The reference toxicant tests were performed under the same conditions as those used during testing. Results for these tests fell within the acceptable range for organism performance of two standard deviations of the mean, based on historical results obtained by the laboratory with these tests. Thus, the sensitivity of the organisms used in these tests was appropriate.

Table 13. Reference toxicant test results.

Test Species	Endpoint (95% CL)	Historical Mean (2 SD Range)	CV (%)	Test Date
P. subcapitata	Growth (IC25): 26.4 (24.2-28.5) µg/L Zn	31.0 (14.9-64.4)	24.4	2024-07-19
C. dubia	Survival (LC50): 1.8 (1.6-2.0) g/L NaCl	2.0 (1.6-2.4)	6.2	2024-07-24
	Reproduction (IC50): 1.4 (1.4-1.6) g/L NaCl	1.7 (1.4-2.1)	6.4	
P. promelas	Survival (LC50): 5.3 (4.5-6.2) g/L NaCl	6.5 (4.5-9.4)	12.1	2024-07-19
	Biomass (IC25): 2.6 (2.3-3.0) g/L NaCl	3.8 (2.3-6.4)	16.8	
L. minor	Frond Number (IC25): 1.4 (1.0-1.9) g/L KCl	2.1 (1.1-3.8)	20.3	2024-07-09
O. mykiss	Survival (LC50): 3.3 (2.7-3.7) g/L KCl	3.8 (2.8-5.0)	9.3	2024-07-15
D. magna	Survival (LC50): 6.7 (6.3-7.2) g/L NaCl	6.3 (5.5-7.2)	4.3	2024-07-31

SD = Standard Deviation, CV = Coefficient of Variation, LC = Lethal Concentration, IC = Inhibition Concentration, CL=Confidence Limit

5.0 REFERENCES

Environment Canada. 2000a. Biological test method: reference method for determining acute lethality of effluent to rainbow trout. EPS 1/RM/13, Second Edition, December 2000 (with May 2007, February 2016, and December 2023 amendments).

Environment Canada. 2000b. Biological test method: reference method for determining acute lethality of effluent to *Daphnia magna*. EPS 1/RM/14, Second Edition, December 2000 (with February 2016 amendments).

Environment Canada. 2007a. Biological test method: growth inhibition test using the freshwater alga. EPS 1/RM/25, Second Edition, March 2007.

Environment Canada. 2007b. Biological test method: test of reproduction and survival using the cladoceran *Ceriodaphnia dubia*. EPS 1/RM/21, Second Edition, February 2007.

Environment Canada. 2007c. Biological test method: test for measuring the inhibition of growth using the freshwater macrophyte (*Lemna minor*). EPS 1/RM/37, Second Edition, January 2007.

Environment Canada. 2011. Biological test method: test of larval growth and survival using fathead minnows. EPS 1/RM/22, Second Edition, March 2011.

Guiry, M.D. & Guiry, G.M. 2018. AlgaeBase. World-wide electronic publication, National University of Ireland, Galway.

OECD. 2011. Guideline 201, "Freshwater Alga and Cyanobacteria, Growth Inhibition Test". OECD Guidelines for the Testing of Chemicals.

Tidepool Scientific Software. 2022. CETIS comprehensive environmental toxicity information system, version 2.1.5.5 Tidepool Scientific Software, McKinleyville, CA. 275 pp.

APPENDIX A – *Pseudokirchneriella subcapitata* Toxicity Test Data

NAUTILUS ENVIRONMENTAL

Algae Bench Sheet

Method: AGD Client: ALS106 Reference: 2324-2644-02

Test log

Day	Date	Init	Time	Rotate Y/N	Rotate Time*	Threshold Size (µm)	Daily Data Review
0	2024/07/19	EP	1010			4.00	[illegible]
1	2024/07/20	KZ	0815	Y	0800	N/A	[illegible]
2	2024/07/21	BP	0815	Y	0800	N/A	[illegible]
3	2024/07/22	EC	1040	—	0800	4.00	[illegible]

*recommended rotation times

Sample Information

Initial pH: 7.2
Initial EC (µS/cm): 3070
Initial DO (mg/L): 8.4
Initial Temp (°C): 23

Inoculum - Physical Counts (must read between **981** and **1198** cells per 0.5 mL)	
1	1048
2	1056
3	1000

Inoculum - Cell Yield	9500

(must be 10,000 +/- 1000 cells/mL)

Nutrients used: normal (mine)

pH Measurements:

Concentration	Initial Value	Final Value
100%	7.9	-
control (well D6)	7.6	-
control (well D7)	-	7.0

***pH range: 6.5-8.5; must be <1.5 units difference between control initial and final**

Quality Assurance - Test Initiation	
Algae Culture Name: Tue.Jun.20230926AG	
Age of Algae (must be 3-7 days): 3 days	
Test organisms appeared healthy before use (yes/no): yes	
Turnover Date: 2024/07/16	
Start time of inoculum prep (must be <3hrs to loading): 0930	
Volume filtered through the 45 µm membrane: 100 mL	
Appearance before filtration: C/C	
Appearance after filtration: C/C	
Light Levels (**must be 3600 - 4400 lux**)	
Day 0: 4230	Day 2: 3840
Day 1: 4180	Day 3: 4190
Temperature (**must be 22-26°C**)	
Day 0: 24	Day 2: 24
Day 1: 24	Day 3: 24
Average Temperature: 24	

Quality Assurance - Test Termination	
Control Fold Growth (must be >16):	24
CV of standard Control Wells (must be ≤20%):	10.4
Mann-Kendall p value (must be >0.05) if CV is >10%:	0.138

Reviewed By: [illegible] Date Reviewed: 2024-08-01

NAUTILUS ENVIRONMENTAL

Algae Bench Sheet

Method: AGD Client: ALS106 Reference: 2324-2644-02

Complete Plate Physical Counts												
		91%	46%	23%	11%	5.7%	2.8%	1.4%	0.7%	0.4%	0.2%	
A	X	X	X	X	X	X	X	X	X	X	X	X
B	X	1800	1300	1400	1400	1500	1800					X
	X	1700	1300	1500	1400	1600	1800					X
	X											X
C	X	1800	1100	1100	1200	1500	1600					X
	X	1900	1100	1100	1200	1400	1500					X
	X											X
D / CTL	X	2100	1600	1800	1800	X	X	1900	1900	1900	2100 ~~1900~~	X
	X	2200	1500	1800	1800	X	X	1800	1800	1800	2100	X
	X					X	X					X
E	X	1800	2400	1100	1300	1200	1800					X
	X	1800	2300	1200	1300	1200	1700					X
	X											X
F	X											X
	X											X
	X											X
G	X											X
	X											X
	X											X
H	X	X	X	X	X	X	X	X	X	X	X	X

Only three replicates are enumerated if the CV is ≤20% within a concentration. If the CV is >20%, the additional two replicates will also be enumerated

Reviewed By: DP Date Reviewed: 2024-08-01

NAUTILUS

Client: ALS106 **Reference:** 2324-2644-02

Standard Control Well Final Cell Densities (D Row):

Column	Final Cell Density ($x10^3$ cells/mL)	Cell Yield ($x10^3$ cells/mL)
2	257	248
3	185	176
4	215	206
5	215	206
8	221	212
9	221	212
10	221	212
11	251	242
Average	224	214
SD	22	22
CV (%)	10.0	10.4
Fold Growth (x)	24	-

Test Well Final Cell Densities:

Concen. (%)	Calculated Final Cell Density ($x10^3$ cells/ mL)				
	Row				
	B	C	E	F	G
0.2	-	-	-	-	-
0.4	-	-	-	-	-
0.7	-	-	-	-	-
1.4	-	-	-	-	-
2.8	215	185	209	-	-
5.7	185	173	144	-	-
11	168	144	156	-	-
23	173	132	138	-	-
46	156	132	281	-	-
91	209	221	215	-	-

Cell Yield Results:

Concentration (%)	Cell Yield ($x10^3$ cells/ mL)							
	Row					**Mean**	SD	CV (%)
	B	C	E	F	G			
0.2	-	-	-	-	-	-	-	-
0.4	-	-	-	-	-	-	-	-
0.7	-	-	-	-	-	-	-	-
1.4	-	-	-	-	-	-	-	-
2.8	206	176	200	-	-	194	16	8
5.7	176	164	134	-	-	158	22	14
11	158	134	146	-	-	146	12	8
23	164	122	128	-	-	138	23	16
46	146	122	272	-	-	180	80	45
91	200	212	206	-	-	206	6	3

Reviewed by: Date Reviewed: 2024-08-01

CETIS Summary Report

Test Code/ID: 2324-2644-02 AG / 04-6574-5594

Selenastrum Growth Test — **Nautilus Environmental Calgary**

Batch ID:	10-9396-5922	**Test Type:**	Cell Growth	**Analyst:**	Lab Tech	
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/25	**Diluent:**	Deionized Water	
Ending Date:	22 Jul-24	**Species:**	Pseudokirchneriella subcapitata	**Brine:**		
Test Length:	72h	**Taxon:**	Chlorophyta	**Source:**	In-House Culture	**Age:**

Sample ID:	11-5318-8106	**Code:**	2324-2644-02 AG	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	Laboratories
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		YL2400933-002

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	PMSD	TU
16-0190-5083	Cell Density	Nemenyi-Damico-Wolfe Test	91	>91	---	---	1.1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	%	95% LCL	95% UCL	TU
07-1851-6053	Cell Density	Linear Interpolation (ICPIN)	IC10	2.89	---	6.676	34.6
			IC15	3.818	0.4219	---	26.2
			IC20	4.967	1.963	---	20.1
			IC25	>91	---	---	<1.1
			IC40	>91	---	---	<1.1
			IC50	>91	---	---	<1.1

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	214.2	195.5	233	176	248	7.932	22.44	10.47%	0.00%
2.8		3	194	154.6	233.4	176	206	9.165	15.87	8.18%	9.45%
5.7		3	158	104.3	211.7	134	176	12.49	21.63	13.69%	26.25%
11		3	146	116.2	175.8	134	158	6.928	12	8.22%	31.86%
23		3	138	81.57	194.4	122	164	13.11	22.72	16.46%	35.59%
46		3	180	-20.15	380.2	122	272	46.52	80.57	44.76%	15.99%
91		3	206	191.1	220.9	200	212	3.464	6	2.91%	3.85%

Cell Density Detail — MD5: D12DF13ABB30F2E5292FAFD2DD50C73A

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	248	176	206	206	212	212	212	242
2.8		206	176	200					
5.7		176	164	134					
11		158	134	146					
23		164	122	128					
46		146	122	272					
91		200	212	206					

CETIS Analytical Report

Test Code/ID: 2324-2644-02 AG / 04-6574-5594

Selenastrum Growth Test — **Nautilus Environmental Calgary**

Analysis ID:	16-0190-5083	**Endpoint:**	Cell Density	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:35	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:		**MD5 Hash:**	D12DF13ABB30F2E5292FAFD2DD50C73	**Editor ID:**	

Batch ID:	10-9396-5922	**Test Type:**	Cell Growth	**Analyst:**	Lab Tech	
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/25	**Diluent:**	Deionized Water	
Ending Date:	22 Jul-24	**Species:**	Pseudokirchneriella subcapitata	**Brine:**		
Test Length:	72h	**Taxon:**	Chlorophyta	**Source:**	In-House Culture	**Age:**

Sample ID:	11-5318-8106	**Code:**	2324-2644-02 AG	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Untransformed	C < T	91	>91	---	1.1

Nemenyi-Damico-Wolfe Test

Control	vs	Conc-%	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		2.8	-129.5	292.6	8	CDF	0.9983	Non-Significant Effect
		5.7	-273.5	292.6	8	CDF	1.0000	Non-Significant Effect
		11	-329.5	292.6	8	CDF	1.0000	Non-Significant Effect
		23	-369.5	292.6	8	CDF	1.0000	Non-Significant Effect
		46	-209.5	292.6	8	CDF	0.9999	Non-Significant Effect
		91	-53.5	292.6	8	CDF	0.9801	Non-Significant Effect

Auxiliary Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Outlier	Grubbs Extreme Value Test	3.308	2.841	0.0041	Outlier Detected
Overall Effect	Fligner-Wolfe Omnibus Test	190.5		0.9990	Non-Significant Overall Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	21827.9	3637.98	6	3.574	0.0153	Significant Effect
Error	19339.5	1017.87	19			
Total	41167.4		25			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Variance	Bartlett Equality of Variance Test	14.96	12.59	0.0206	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9097	0.922	0.0260	Non-Normal Distribution

Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	214.2	195.5	233	212	176	248	7.932	10.47%	0.00%
2.8		3	194	154.6	233.4	200	176	206	9.165	8.18%	9.45%
5.7		3	158	104.3	211.7	164	134	176	12.49	13.69%	26.25%
11		3	146	116.2	175.8	146	134	158	6.928	8.22%	31.86%
23		3	138	81.57	194.4	128	122	164	13.11	16.46%	35.59%
46		3	180	-20.15	380.2	146	122	272	46.52	44.76%	15.99%
91		3	206	191.1	220.9	206	200	212	3.464	2.91%	3.85%

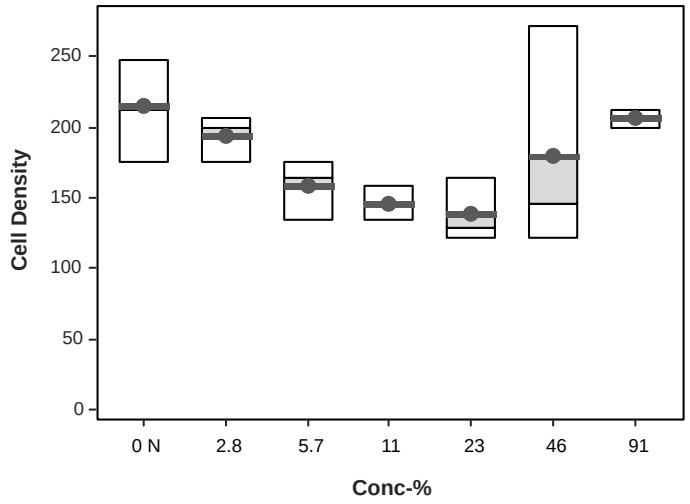
Selenastrum Growth Test | **Nautilus Environmental Calgary**

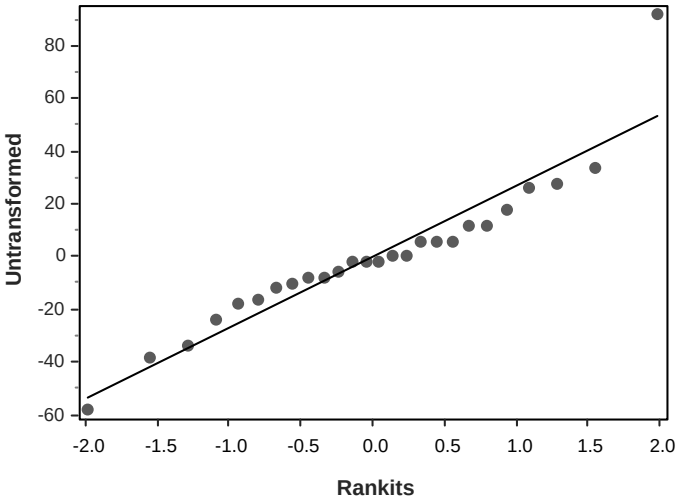
Analysis ID:	16-0190-5083	**Endpoint:**	Cell Density	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:35	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Edit Date:		**MD5 Hash:**	D12DF13ABB30F2E5292FAFD2DD50C73	**Editor ID:**	

Cell Density Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	248	176	206	206	212	212	212	242
2.8		206	176	200					
5.7		176	164	134					
11		158	134	146					
23		164	122	128					
46		146	122	272					
91		200	212	206					

Graphics





CETIS Analytical Report

Selenastrum Growth Test — **Nautilus Environmental Calgary**

Analysis ID:	07-1851-6053	**Endpoint:**	Cell Density	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:37	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:		**MD5 Hash:**	D12DF13ABB30F2E5292FAFD2DD50C73	**Editor ID:**	

Batch ID:	10-9396-5922	**Test Type:**	Cell Growth	**Analyst:**	Lab Tech	
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/25	**Diluent:**	Deionized Water	
Ending Date:	22 Jul-24	**Species:**	Pseudokirchneriella subcapitata	**Brine:**		
Test Length:	72h	**Taxon:**	Chlorophyta	**Source:**	In-House Culture	**Age:**

Sample ID:	11-5318-8106	**Code:**	2324-2644-02 AG	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	332209	200	Yes	Two-Point Interpolation

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision(α:5%)
Outlier	Grubbs Extreme Value Test	3.308	2.841	0.0041	Outlier Detected

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC10	2.89	---	6.676	34.6	15	---
IC15	3.818	0.4219	---	26.2	---	237
IC20	4.967	1.963	---	20.1	---	50.9
IC25	>91	---	---	<1.1	---	---
IC40	>91	---	---	<1.1	---	---
IC50	>91	---	---	<1.1	---	---

Cell Density Summary

			Calculated Variate						Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	8	214.2	212	176	248	10.47%	0.00%	214.2	0.00%
2.8		3	194	200	176	206	8.18%	9.45%	194	9.45%
5.7		3	158	164	134	176	13.69%	26.25%	165.6	22.71%
11		3	146	146	134	158	8.22%	31.86%	165.6	22.71%
23		3	138	128	122	164	16.46%	35.59%	165.6	22.71%
46		3	180	146	122	272	44.76%	15.99%	165.6	22.71%
91		3	206	206	200	212	2.91%	3.85%	165.6	22.71%

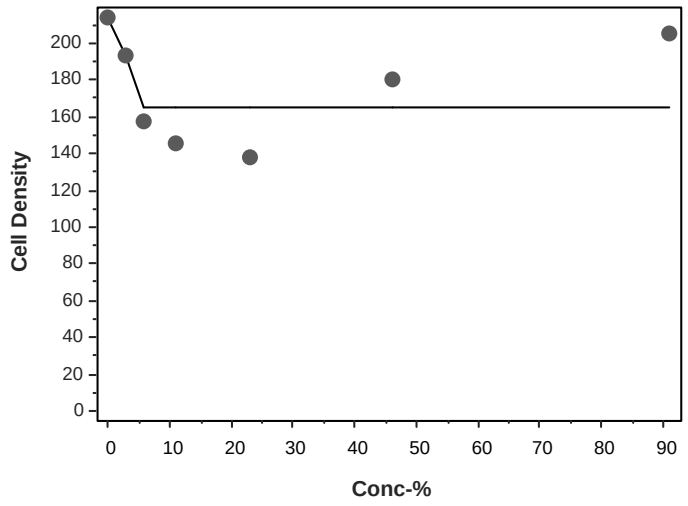
Cell Density Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	248	176	206	206	212	212	212	242
2.8		206	176	200					
5.7		176	164	134					
11		158	134	146					
23		164	122	128					
46		146	122	272					
91		200	212	206					

Selenastrum Growth Test | **Nautilus Environmental Calgary**

Analysis ID:	07-1851-6053	**Endpoint:**	Cell Density	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:37	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:		**MD5 Hash:**	D12DF13ABB30F2E5292FAFD2DD50C73	**Editor ID:**	

Graphics



APPENDIX B – *Ceriodaphnia dubia* Toxicity Test Data

NAUTILUS ENVIRONMENTAL

Ceriodaphnia Bench Sheet

Method CDD Client ALS106 Reference 2324-2644-02

Test Log

Date	Day	Time	Technician	Chem. Cart Used	Subsample Fed (✓)	Daily Data Review	Subsample Used	
24/07/19	0	1430	KM/CD	2	✓	CE	Day 0	✓
24/07/20	1	0850	JC	2	✓	EP	Day 1	✓
24/07/21	2	0900	AMA	2	✓	AI	Day 2	✓
24/07/22	3	0850	AI	2	✓	KM	Day 3	✓
24/07/23	4	1400	AU	2	✓	AI	Day 4	✓
24/07/24	5	0830	CD	2	✓	MS	Day 5	✓
24/07/25	6	1050	MS	2	✓	KO	Day 6	✓
24/07/26	7	0820	CE	2	—	CM	Day 7	—
	8						-	

Sample Information

Initial pH: 7.2
Initial EC (µS/cm): 3070
Initial DO (mg/L): 8.4
Initial Temp (°C): 23

Filtered with 60 µm nitex screen
Yes/No

Sample pre-aerated/hardness/pH adjust:
Yes/No

*if yes, describe procedure, rate and duration

Test Specifics

Food expiration: 08/05 in H

Dilution water vessel and preparation date: 8:07/16, 4:07/17, 9:07/19
8:07/21, 4:07/21, 4:07/21

Cup	Control Validity Day 7 Number of Young	Number of Broods
1	—	0
2	28	3
3	11	2
4	29	3
5	19	↓
6	25	↓
7	16	2
8	30	3
9	28	↓
10	32	↓

Average # of Young: 22.24

% with ≥ 3 Broods: 70%

Control Mortality: 10%
(must be ≤20%)

Reproduction Validity Criteria: the average number of young produced in first three broods is ≥ 15, when 60% of control organsims had 3 or more broods: Yes / No

Reviewed By: [signature] Date Reviewed: 2024-08-01

NAUTILUS ENVIRONMENTAL

Ceriodaphnia Bench Sheet

Method CDD Client ALS106 Reference 2324-2644-02

Chemistry

pH (units) (range: 6.5-8.5)

New Solutions

Conc. (%) / Day	CTL	1.6	3.1	6.3	13	25	50	100
0	7.8	7.8	7.8	7.7	7.7	7.7	7.6	7.5
1	7.8	7.8	7.7	7.7	7.7	7.6	7.6	7.4
2	8.4	8.4	8.4	8.3	8.3	8.2	8.1	7.9
3	8.1	8.1	8.1	8.0	8.0	7.9	7.8	7.7
4	8.0	8.0	8.0	8.0	7.9	7.9	7.8	7.8
5	8.0	8.1	7.9	8.0	8.0	7.9	7.8	7.7
6	8.2	8.2	8.1	8.0	7.9	7.9	7.8	7.9
7 cc	~~8.0~~	~~8.0~~	~~7.9~~	~~7.9~~	~~7.8~~	~~7.8~~		
8								

Old Solutions

Conc. (%) / Day	CTL	1.6	3.1	6.3	13	25	50	100
0	—	—	—	—	—	—	—	—
1	7.7	7.7	7.6	7.6	7.6	7.5	7.5	7.3
2	8.1	8.0	8.0	8.0	7.9	7.9	7.8	7.8
3	8.0	7.8	7.8	7.7	7.7	7.6	7.6	7.4
4	7.8	7.8	7.8	7.8	7.7	7.7	7.7	7.6
5	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.5
6	7.8	7.7	7.6	7.6	7.6	7.6	7.5	7.5
7	8.0	8.0	7.9	7.9	7.8	7.8	7.5	7.5
8								

Conductance (µS/cm)

New Solutions

Conc. (%) / Day	CTL	1.6	3.1	6.3	13	25	50	100
0	211	279	352	466	596	1056	1658	3140
1	212	280	359	438	663	1097	1667	3210
2	252	289	318	468	631	1069	1571	3070
3	204	252	314	413	560	1075	1637	3210
4	203	282	373	450	661	1083	1626	3170
5	206	281	355	496	635	998	1695	3160
6	249	292	332	476	633	963	1754	3150
7 cc	~~226~~	~~293~~	~~334~~	~~465~~	~~637~~	~~968~~		
8								

Old Solutions

Conc. (%) / Day	CTL	1.6	3.1	6.3	13	25	50	100
0	—	—	—	—	—	—	—	—
1	215	285	361	469	611	1070	1678	3190
2	216	274	318	426	618	1047	1608	3110
3	263	287	346	463	640	1165	1557	3140
4	212	278	317	418	646	1062	1615	3100
5	212	281	368	449	659	1104	1625	3110
6	218	283	358	450	627	976	1644	2930
7	226	293	334	465	637	968	1591	3150
8								

Dissolved Oxygen (mg/L) (40-100% saturation)

New Solutions

Conc. (%) / Day	CTL	1.6	3.1	6.3	13	25	50	100
0	7.3	7.3	7.3	7.5	7.3	7.3	7.3	7.3
1	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
2	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
4	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
5	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
6	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
7								
8								

Old Solutions

Conc. (%) / Day	CTL	1.6	3.1	6.3	13	25	50	100
0	—	—	—	—	—	—	—	—
1	7.0	7.0	6.9	6.9	7.0	7.0	7.0	7.0
2	6.9	6.8	6.8	6.8	6.7	6.8	6.8	6.9
3	6.2	6.1	6.1	6.0	5.8	5.8	5.9	6.1
4	6.0	6.2	6.1	6.1	6.3	6.4	6.6	6.9
5	6.5	6.5	6.3	6.1	6.2	6.3	6.5	6.7
6	5.5	5.5	5.4	5.4	5.4	5.3	5.3	6.1
7	4.5	4.6	4.6	4.8	5.1	5.1	5.2	5.7
8								

Temperature 24 - 26 (°C)

New Solutions

Conc. (%) / Day	CTL	1.6	3.1	6.3	13	25	50	100
0	24	24	24	24	24	24	24	24
1	24	24	24	24	24	24	24	24
2	24	24	24	24	24	24	24	24
3	24	24	24	24	24	24	24	24
4	24	24	24	24	24	24	24	24
5	24	24	24	24	24	24	24	24
6	24	24	24	24	24	24	24	24
7	24							
8								

Old Solutions

Conc. (%) / Day	CTL	1.6	3.1	6.3	13	25	50	100
0	—	—	—	—	—	—	—	—
1	24	25	24	24	24	25	24	24
2	24	24	24	24	24	24	24	24
3	24	24	24	24	24	24	24	24
4	24	24	24	24	24	24	24	24
5	24	24	24	24	24	24	24	24
6	24	24	24	24	24	24	24	24
7	24	24	24	24	24	24	24	24
8								

DO Levels (40-100% saturation)* -
2.9 to 7.3 mg/L at 24°C
2.9 to 7.2 mg/L at 25°C
2.8 to 7.1 mg/L at 26°C

*corrected for altitude

Reviewed By: GP

Date Reviewed: ~~2024-08-01~~

NAUTILUS ENVIRONMENTAL

Ceriodaphnia Bench Sheet

Method CDD Client ALS106 Reference 2324-2644-02

Biology

(#, young produced; 0, no young; X, dead; X#, young produced-dead; —,young produced after 3rd brood)

Brood organisms produced during an organism's 4th or subsequent brood are not included in brood counts

Day	1	2	3	4	5	6	7	8
Cup				CTL				
1	0	0	0	X0	—	—	—	—
2	↓	↓	↓	4	0	14	10	—
3	↓	↓	↓	2	0	9	0	
4	↓	↓	↓	6	0	11	12	—
5	↓	↓	↓	3	0	9	7	—
6	↓	↓	↓	5	0	8	12	—
7	↓	↓	↓	3	0	13	0	
8	↓	↓	↓	5	0	12	13	—
9	↓	↓	↓	4	0	8/10	14	—
10	↓	↓	↓	4	0	11	17	—
				1.6 %				
1	0	0	0	6	0	8	18	—
2	↓	↓	↓	0	↓	8	11	—
3	↓	↓	↓	4	↓	8	0	
4	↓	↓	↓	0	X	7	0	
5	↓	↓	↓	0	X	11	0	
6	↓	↓	↓	0	X	M 12	10	
7	↓	↓	↓	2	↓	12	0	
8	↓	↓	↓	0	7	0 12	7	
9	↓	↓	↓	2	0	10	0	
10	↓	↓	↓	0	6	0	14	
				3.1 %				
1	0	0	0	4	0	10	16	—
2	↓	↓	↓	3	↓	8	10	—
3	↓	↓	↓	5	↓	10	10	—
4	↓	↓	↓	4	↓	11	0	
5	↓	↓	↓	0	X	10	0	
6	↓	↓	↓	5	↓	10	0	
7	↓	↓	↓	2	↓	12	10	—
8	↓	↓	↓	0	X	6	0	
9	↓	↓	↓	0	↓	X0	—	—
10	↓	↓	↓	0	↓	8	17	
				6.3 %				
1	0	0	0	4	0	10	17	—
2	↓	↓	↓	4	↓	8	0	
3	↓	↓	↓	4	↓	10	0	
4	↓	↓	↓	5	↓	7	8	—
5	↓	↓	↓	5	↓	12	0	
6	↓	↓	↓	5	↓	10	16	—
7	↓	↓	↓	2	↓	9	0	
8	↓	↓	↓	4	↓	11	13	—
9	↓	↓	↓	3	↓	10	8	
10	↓	↓	↓	0	6	0	13	

Day	1	2	3	4	5	6	7	8
				13 %				
1	0	0	0	4	0	10	0	
2	↓	↓	↓	X4	—	—	—	—
3	↓	↓	↓	4	0	9	0	
4	↓	↓	↓	5	↓	10	0	
5	↓	↓	↓	0	↓	10	0	
6	↓	↓	↓	3	↓	7	0	
7	↓	↓	↓	2	↓	9	11	—
8	↓	↓	↓	X3	—	—	—	—
9	↓	↓	↓	3	0	10	12	—
10	↓	↓	↓	5	0	11	0	
				25 %				
1	0	0	0	3	0	7	0	
2	↓	↓	↓	3	↓	9	0	
3	↓	↓	↓	3	↓	8	0	
4	↓	↓	↓	0	↓	9	0	
5	↓	↓	↓	0	11	8	0	
6	↓	↓	↓	4	↓	5	0	
7	X0	—	—	—	—	—	—	—
8	0	0	0	0	0	8	0	
9	0	↓	↓	0	11	6	14	
10	0	↓	↓	2	↓	5	0	
				50 %				
1	0	0	0	X2	—	—	—	—
2	↓	↓	↓	5	0	5	12	—
3	↓	↓	↓	5	↓	9	14	—
4	↓	↓	↓	5	↓	5	15	—
5	↓	↓	↓	X0	—	—	—	—
6	↓	↓	↓	3	0	7	13	—
7	↓	↓	↓	5	↓	9	11	—
8	↓	↓	↓	4	↓	8	0	
9	↓	↓	↓	4	↓	7	12	—
10	↓	↓	↓	5	↓	8	15	—
				100 %				
1	0	0	0	4	0	7	11	—
2	↓	↓	↓	3	↓	4	10	—
3	↓	↓	↓	2	↓	8	11	—
4	↓	↓	↓	2	↓	6	10	—
5	↓	↓	↓	3	↓	4	9	—
6	↓	↓	↓	0	6	0	7	
7	↓	↓	↓	0	0	4	7	
8	↓	↓	↓	2	↓	7	12	—
9	↓	↓	↓	0	11	7	6	
10	↓	↓	↓	2	↓	8	10	—

Reviewed By: OP Date Reviewed: 2024-08-01

NAUTILUS ENVIRONMENTAL

Ceriodaphnia Bench Sheet

Test Organism Information

Client: ALS106

Culture history for adults used in the test for sample reference: 2324-2644-02

Day Used: 2024/07/19

Test organisms appeared healthy before use: Yes/No

Number of young produced per brood adult within first three broods:

Brood	row/replicate	A1	A2	A4	B1	C5	E1					
	number of young	2	2	2	9	9	5					
	number of young	6	8	8	17	18	8					
	number of young	15	15	13	8	11	15					
	number of young	18	18	17	17	16	14					

Culture(s) Used for Testing: wednesday B

Number of Adults Alive in Culture	7 days prior: 25	day used: 25

Notes: all cups have 1 adult

Average No. of young in first 3 broods: 29
(must be ≥15)
Culture % mortality (7-days prior to testing): 0%
(must be ≤20%)
Number of young produced by each brood organism in last complete brood is ≥8: Y
Yes (Y) or No (N)

Reviewed By: [illegible] Date Reviewed: 2024-08-01

CETIS Summary Report

Test Code/ID: 2324-2644-02 CD / 17-4367-0668

Ceriodaphnia 7-d Survival and Reproduction Test — **Nautilus Environmental Calgary**

Batch ID:	16-3569-1087	**Test Type:**	Reproduction-Survival (7d)	**Analyst:**	Lily Cole	
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/21	**Diluent:**	MHRW	
Ending Date:	26 Jul-24	**Species:**	Ceriodaphnia dubia	**Brine:**		
Test Length:	7d 0h	**Taxon:**	Branchiopoda	**Source:**	In-House Culture	**Age:**

Sample ID:	19-9221-2714	**Code:**	2324-2644-02 CD	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	%	95% LCL	95% UCL	TU
17-3051-1881	7d Survival Rate	Linear Interpolation (ICPIN)	LC10	>100	---	---	<1
			LC15	>100	---	---	<1
			LC20	>100	---	---	<1
			LC25	>100	---	---	<1
			LC40	>100	---	---	<1
			LC50	>100	---	---	<1
05-7439-4287	Reproduction	Linear Interpolation (ICPIN)	IC10	0.6553	0.2824	---	152.6
			IC15	1.13	0.4522	---	88.5
			IC20	6.666	0.6445	---	15
			IC25	8.7	0.8623	---	11.5
			IC40	>100	---	---	<1
			IC50	>100	---	---	<1

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	0.9000	0.6738	1.1260	0.0000	1.0000	0.1000	0.3162	35.14%	0.00%
1.6		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-11.11%
3.1		10	0.9000	0.6738	1.1260	0.0000	1.0000	0.1000	0.3162	35.14%	0.00%
6.3		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-11.11%
13		10	0.8000	0.4984	1.1020	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%
25		10	0.9000	0.6738	1.1260	0.0000	1.0000	0.1000	0.3162	35.14%	0.00%
50		10	0.8000	0.4984	1.1020	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-11.11%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	21.8	14.48	29.12	0	32	3.238	10.24	46.97%	0.00%
1.6		10	16.3	11.17	21.43	7	32	2.266	7.166	43.96%	25.23%
3.1		10	17.1	10.23	23.97	0	30	3.035	9.597	56.12%	21.56%
6.3		10	19.6	14.04	25.16	11	31	2.459	7.777	39.68%	10.09%
13		10	13.2	8.212	18.19	3	25	2.205	6.973	52.83%	39.45%
25		10	9.4	5.86	12.94	0	20	1.565	4.949	52.64%	56.88%
50		10	18.8	11.36	26.24	0	28	3.289	10.4	55.32%	13.76%
100		10	17.2	14.42	19.98	11	22	1.227	3.882	22.57%	21.10%

Ceriodaphnia 7-d Survival and Reproduction Test **Nautilus Environmental Calgary**

7d Survival Rate Detail MD5: 09EBCDFE07AEF152AF305137E2F29661

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.6		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3.1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000
6.3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13		1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
50		0.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Reproduction Detail MD5: DA0B9A58B582BBF1EFF900D4CA116BEE

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	0	28	11	29	19	25	16	30	28	32
1.6		32	19	12	7	11	22	14	14	12	20
3.1		30	21	25	15	10	15	24	6	0	25
6.3		31	12	14	20	17	31	11	28	13	19
13		14	4	13	15	10	10	22	3	25	16
25		10	12	11	9	8	9	0	8	20	7
50		2	22	28	25	0	23	25	12	23	28
100		22	17	21	18	16	13	11	21	13	20

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
1.6		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3.1		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1
6.3		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
13		1/1	0/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
50		0/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Ceriodaphnia 7-d Survival and Reproduction Test — **Nautilus Environmental Calgary**

Analysis ID:	17-3051-1881	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETIS v2.1.5
Analyzed:	26 Aug-24 18:21	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:		**MD5 Hash:**	2D077D0CB39E4E0C0CD61B7AC3214599	**Editor ID:**	

Batch ID:	16-3569-1087	**Test Type:**	Reproduction-Survival (7d)	**Analyst:**	Lily Cole	
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/21	**Diluent:**	MHRW	
Ending Date:	26 Jul-24	**Species:**	Ceriodaphnia dubia	**Brine:**		
Test Length:	7d 0h	**Taxon:**	Branchiopoda	**Source:**	In-House Culture	**Age:**

Sample ID:	19-9221-2714	**Code:**	2324-2644-02 CD	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	1676275	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
LC10	>100	---	---	<1	---	---
LC15	>100	---	---	<1	---	---
LC20	>100	---	---	<1	---	---
LC25	>100	---	---	<1	---	---
LC40	>100	---	---	<1	---	---
LC50	>100	---	---	<1	---	---

7d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**ΣA/ΣB**	**Mean**	**%Effect**
0	N	10	0.9000	1.0000	0.0000	1.0000	35.14%	0.00%	9/10	0.9500	0.00%
1.6		10	1.0000	1.0000	1.0000	1.0000	0.00%	-11.11%	10/10	0.9500	0.00%
3.1		10	0.9000	1.0000	0.0000	1.0000	35.14%	0.00%	9/10	0.9500	0.00%
6.3		10	1.0000	1.0000	1.0000	1.0000	0.00%	-11.11%	10/10	0.9500	0.00%
13		10	0.8000	1.0000	0.0000	1.0000	52.70%	11.11%	8/10	0.8750	7.89%
25		10	0.9000	1.0000	0.0000	1.0000	35.14%	0.00%	9/10	0.8750	7.89%
50		10	0.8000	1.0000	0.0000	1.0000	52.70%	11.11%	8/10	0.8750	7.89%
100		10	1.0000	1.0000	1.0000	1.0000	0.00%	-11.11%	10/10	0.8750	7.89%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.6		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3.1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000
6.3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13		1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
50		0.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

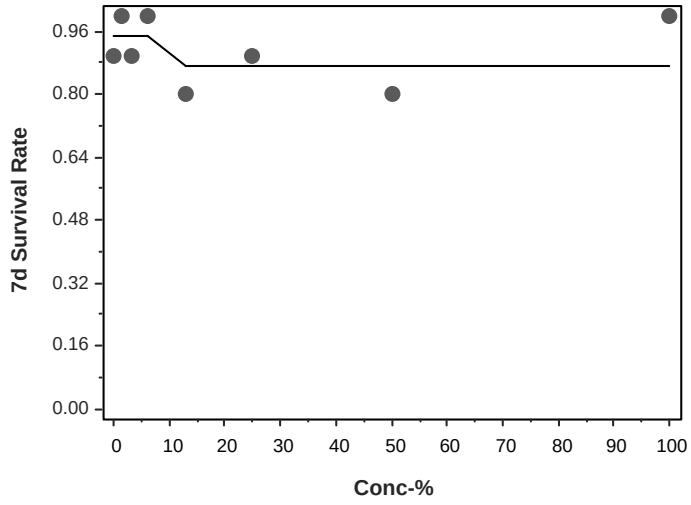
Ceriodaphnia 7-d Survival and Reproduction Test — **Nautilus Environmental Calgary**

Analysis ID:	17-3051-1881	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETIS v2.1.5
Analyzed:	26 Aug-24 18:21	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:		**MD5 Hash:**	2D077D0CB39E4E0C0CD61B7AC3214599	**Editor ID:**	

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
1.6		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3.1		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1
6.3		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
13		1/1	0/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
50		0/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Graphics



CETIS Analytical Report

Test Code/ID: 2324-2644-02 CD / 17-4367-0668

Ceriodaphnia 7-d Survival and Reproduction Test — **Nautilus Environmental Calgary**

Analysis ID:	05-7439-4287	**Endpoint:**	Reproduction	**CETIS Version:**	CETIS v2.1.5
Analyzed:	10 Sep-24 16:05	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	10 Sep-24 0:00	**MD5 Hash:**	900B8C76218CC193FDFF58180ECDADAE	**Editor ID:**	002-704-782-4

Batch ID:	16-3569-1087	**Test Type:**	Reproduction-Survival (7d)	**Analyst:**	Lily Cole	
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/21	**Diluent:**	MHRW	
Ending Date:	26 Jul-24	**Species:**	Ceriodaphnia dubia	**Brine:**		
Test Length:	7d 0h	**Taxon:**	Branchiopoda	**Source:**	In-House Culture	**Age:**

Sample ID:	19-9221-2714	**Code:**	2324-2644-02 CD	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	936927	200	Yes	Two-Point Interpolation

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision(α:5%)
Control Trend	Mann-Kendall Trend Test	1.886	1.96	0.0593	Non-Significant Control Trend

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC10	0.6553	0.2824	---	152.6	---	354.1
IC15	1.13	0.4522	---	88.5	---	221.1
IC20	6.666	0.6445	---	15	---	155.2
IC25	8.7	0.8623	---	11.5	---	116
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Reproduction Summary

			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	10	21.8	26.5	0	32	46.97%	0.00%	21.8	0.00%
1.6		10	16.3	14	7	32	43.96%	25.23%	17.67	18.96%
3.1		10	17.1	18	0	30	56.12%	21.56%	17.67	18.96%
6.3		10	19.6	18	11	31	39.68%	10.09%	17.67	18.96%
13		10	13.2	13.5	3	25	52.83%	39.45%	14.65	32.80%
25		10	9.4	9	0	20	52.64%	56.88%	14.65	32.80%
50		10	18.8	23	0	28	55.32%	13.76%	14.65	32.80%
100		10	17.2	17.5	11	22	22.57%	21.10%	14.65	32.80%

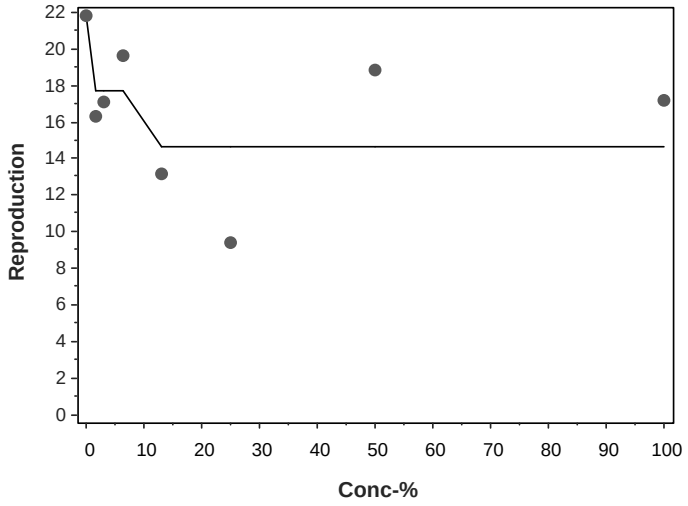
Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	0	28	11	29	19	25	16	30	28	32
1.6		32	19	12	7	11	22	14	14	12	20
3.1		30	21	25	15	10	15	24	6	0	25
6.3		31	12	14	20	17	31	11	28	13	19
13		14	4	13	15	10	10	22	3	25	16
25		10	12	11	9	8	9	0	8	20	7
50		2	22	28	25	0	23	25	12	23	28
100		22	17	21	18	16	13	11	21	13	20

Ceriodaphnia 7-d Survival and Reproduction Test **Nautilus Environmental Calgary**

Analysis ID:	05-7439-4287	**Endpoint:**	Reproduction	**CETIS Version:**	CETIS v2.1.5
Analyzed:	10 Sep-24 16:05	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	10 Sep-24 0:00	**MD5 Hash:**	900B8C76218CC193FDFF58180ECDADAE	**Editor ID:**	002-704-782-4

Graphics



APPENDIX C – *Pimephales promelas* Toxicity Test Data

NAUTILUS ENVIRONMENTAL

Fathead Minnow Bench Sheet

Method FMD Client ALS106 Reference 2324-2644-02

Test Log

Date	Day	Time	Technicians	Chem. Cart Used	Pail	Fed AM	Fed PM	Daily Data Review	Subsample Used	
2024/07/19	0	1350	BS/JK/KM	5	3	-	✓	CC	Day 0	✓
2024/07/20	1	1000	AP	6	3	✓	✓	BS	Day 1	✓
2024/07/21	2	1040	KN	6	3	✓	✓	KO	Day 2	✓
2024/07/22	3	0945	Amy	10	3	✓	✓	KM	Day 3	✓
2024/07/23	4	1300	KN	6	1	✓	✓	MC	Day 4	✓
2024/07/24	5	1000	BP	5	1	✓	✓	MS	Day 5	✓
2024/07/25	6	1000	AO	6	1	✓	✓	KO	Day 6	✓
2024/07/26	7	0950	BS	6	–	-	-	KM	-	-

Sample Information

Initial pH: 6.7
Initial EC (µS/cm): 3100
Initial DO (mg/L): 8.3
Filtered with 60 µm nitex screen Yes/No
Sample pre-aerated/hardness/pH adjust: Yes/No
*if yes, describe procedure, rate and duration

Test Organisms

Fish Feeding Normally: Yes/No
Inflated Swim Bladders: Yes/No
Organism Source: Aquatox
Batch Number: 20240719FM
Breeding Stock Mortality: 0%

Organisms upon receipt:

Mortality: 0%
Temperature (°C): 26 *temp. must be between 22 °C- 28°C
Dissolved Oxygen (mg/L): 9.8

Biology (# of organisms alive and # of live organisms displaying atypical swimming behaviour per vessel)

conc. (%)	CTL	1.6	3.2	6.3	12	25	50	100
replicate	Day 1							
a	10	10	10(2)	10	10	10(1)	10	10
b	↓	↓	10(1)	↓	↓	10	↓	↓
c	↓	↓	10	↓	↓	10(1)	↓	↓
d	↓	↓	9*	↓	↓	10(1)	↓	↓
	Day 2							
a	10	10	9	10	10	10	10	10
b	↓	10	10(1)	↓	9	10	↓	10
c	↓	9	10	↓	10	10 9	↓	10(1)
d	↓	10	9	↓	10	10 9(1)	↓	10
	Day 3							
a	10	10	9	10	10	10	10	10
b	10	10	10	↓	9	10	↓	↓
c	9	9	10	↓	10	9	↓	↓
d	10	10	9	↓	10	10	↓	↓
	Day 4							
a	10	10	8	10	10	10	10	10
b	10	10	10	10	8	10	10	10
c	9	9	10	10	10	9	10(1)	10
d	10	10	9	10	10	10	10	10

conc. (%)	CTL	1.6	3.2	6.3	12	25	50	100
replicate	Day 5							
a	10	10	8	10	10	10	10	10
b	10	10	10	10	8	10	10	10
c	9	9	10	10	10	9	9	10
d	10	10	9	10	10	10	10	9
	Day 6							
a	10	10	8	10	9	10	10	10
b	10	10	10	10	8	10	10	10
c	9	9	10	10	10	9	9	10
d	10	10	9	10	10	10	10	9
	Day 7							
a	10	10	8(1)	10	9	10	10	10
b	10	10	10	10	8	10	10	10
c	9	9	10	10	10	9	9	10
d	10	10	9	10	10	10	10	9

Comments:
3.2 rep D missbacted w/ 9
Test not fed day 1 pm

Atypical Swimming Behaviour:
Unless otherwise noted, behavior is considered to be normal
Any fish that appear moribund (lethargic), display a loss of equilibrium or show atypical swimming behaviour

Scoring Convention: # alive (# atypically swimming)
e.g. 10 (4) indicates 10 alive but 4 swimming atypically in vessel
No bracketed # indicates no atypical swimming within test vessel

Reviewed By: JP Date Reviewed: 2024-08-01

NAUTILUS ENVIRONMENTAL

Fathead Minnow Bench Sheet

Method FMD Client ALS106 Reference 2324-2644-02

Chemistry

New Solutions

conc. (%)	CTL	1.6	3.2	6.3	12	25	50	100
day								
pH (units) (range: 6.5-8.5)								
0	7.8	7.7	7.7	7.7	7.7	7.7	7.6	7.6
1	8.1	8.1	8.1	8.0	8.0	7.9	7.8	7.8
2	8.0	8.0	8.0	8.0	7.9	7.9	7.8	7.6
3	8.1	8.1	8.1	8.1	8.1	8.0	7.9	7.8
4	8.1	8.2	8.2	8.2	8.1	8.0	8.0	7.9
5	8.1	8.0	8.0	8.0	7.9	7.8	7.7	7.5
6	8.1	8.1	8.0	8.0	8.0	8.0	7.8	7.7
7								
8								
Conductivity (µS/cm)								
0	378	433	467	585	775	1146	1878	2760
1	369	455	511	515	726	1191	1930	3177
2	388	442	497	598	791	1168	1919	3190
3	396	455	511	620	815	1180	1944	3270
4	393	457	512	615	819	1176	1950	3280
5	397	456	515	621	814	1187	1921	3260
6	390	461	514	618	810	1173	1860	3260
7								
8								
Dissolved Oxygen (mg/L) (40-100% saturation)								
0	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
1	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
2	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
3	7.3	7.3	7.3	7.3	7.3	7.3	7.5	8.0
4	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
5	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
6	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
7								
8								
Temperature 24 - 26 (°C)								
0	24	24	24	24	24	24	24	24
1	24	24	24	24	24	24	24	24
2	24	24	24	24	24	24	24	24
3	24	24	24	24	24	24	24	24
4	24	24	24	24	24	24	24	24
5	24	24	24	24	24	24	24	24
6	24	24	24	24	24	24	24	24
7								
8								

Old Solutions

conc. (%)	CTL	1.6	3.2	6.3	12	25	50	100
pH (units) (range: 6.5-8.5)								
0								
1	7.9	7.9	7.8	7.8	7.8	7.8	7.6	7.5
2	7.9	7.9	7.9	7.8	7.8	7.8	7.6	7.4
3	8.0	7.9	7.9	7.8	7.8	7.8	7.7	7.5
4	8.0	7.9	7.9	7.9	7.9	7.8	7.6	7.4
5	7.6	7.5	7.6	7.5	7.6	7.5	7.3	7.0
6	7.9	7.8	7.9	7.8	7.8	7.7	7.6	7.4
7	7.9	7.9	7.9	7.9	7.9	7.8	7.7	7.5
8								
Conductivity (µS/cm)								
0								
1	390	448	500	589	776	1179	1865	3150
2	422	454	505	609	677	1168	1887	3160
3	392	456	509	613	815	1184	1867	3230
4	421	464	534	631	796	1187	1952	3240
5	397	459	515	614	810	1171	1938	3230
6	400	469	526	633	832	1207	1858	3230
7	433	476	525	630	826	1183	1944	3300
8								
Dissolved Oxygen (mg/L) (40-100% saturation)								
0								
1	7.1	7.0	7.0	7.0	7.0	7.0	7.0	6.9
2	7.0	7.0	7.1	7.1	7.1	7.1	7.1	7.1
3	7.3	7.0	6.9	6.9	6.9	6.9	6.9	6.9
4	6.2	6.2	6.3	6.3	6.3	6.4	6.3	6.3
5	6.4	6.1	6.2	6.1	6.1	6.4	6.2	6.2
6	6.6	6.6	6.6	6.6	6.5	6.5	6.4	6.5
7	6.8	6.8	6.8	6.7	6.7	6.7	6.8	6.8
8								
Temperature 24 - 26 (°C)								
0								
1	24	24	24	24	24	24	24	24
2	24	24	24	24	24	24	24	24
3	24	24	24	24	24	24	24	24
4	24	24	24	24	24	24	24	24
5	24	24	24	24	24	24	24	24
6	24	24	24	24	24	24	24	24
7	24	24	24	24	24	24	24	24
8								

DO Levels (40-100% saturation)* - 2.9 to 7.3 mg/L at 24°C 2.9 to 7.2 mg/L at 25°C 2.8 to 7.1 mg/L at 26°C
*corrected for altitude

Reviewed By: OP Date Reviewed: 2024-08-01

NAUTILUS ENVIRONMENTAL

Organism Weights Bench Sheet

Client ALS 106 Sample 2324-2644-02 Organism FMD Batch 20240719FM

	Item Weighed	Date	Initials	Balance*
Initial Weight (mg):	dried pan	2024/07/21	KO	3
Final Weight (mg):	dried pan + organisms	2024/07/28	KN	3

* same balance should be used for initial and final weights
* for FM/HA/CT, must use scale with 0.01 mg accuracy

Concentration

Replicate	CTL Initial	CTL Final	1.6 Initial	1.6 Final	3.2 Initial	3.2 Final	6.3 Initial	6.3 Final	12.5 Initial	12.5 Final	25 Initial	25 Final
a	421.24	425.84	420.83	425.29	423.92	426.63	423.74	428.53	423.17	427.28	426.38	430.33
b	419.05	423.18	424.15	428.22	420.82	424.90	423.16	427.70	422.76	427.13	423.83	428.04
c	426.60	431.43	419.50	423.84	421.18	425.48	422.88	427.22	420.20	425.26	421.07	425.62
d	422.23	427.35	424.23	429.15	423.75	428.04	426.87	432.09	424.37	429.17	423.54	428.17
e												

Concentration

Replicate	50 Initial	50 Final	100 Initial	100 Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
a	426.51	430.96	419.92	423.47								
b	428.10	432.55	425.85	430.08								
c	421.22	425.70	422.25	426.82								
d	419.99	426.11	424.01	428.63								
e												

Balance Calibration Check:

	Initial	Final
first pan weighed:	CTL A	CTL A
weight of first pan:	421.24	425.84
first pan after all other pans weighed:	421.24	425.82
% difference <5%:	Yes/No	Yes/No

% difference = (initial weight - reweight) / (initial weight + reweight) / 2) × 100%

Test Validity Met: Yes/No/NA

Results are Logical:** Yes/No

** no negative numbers, consistent values across replicates

If "no" is circled for any parameter, notify Lab Supervisor/ QA Group to determine appropriate action

Reviewed By: [illegible] Date Reviewed: 2024 -08- 01

CETIS Summary Report

Test Code/ID: 2324-2644-02 FM / 15-5627-6777

Fathead Minnow 7-d Larval Survival and Growth Test — **Nautilus Environmental Calgary**

Batch ID:	19-0451-0775	**Test Type:**	Growth-Survival (7d)	**Analyst:**	Lily Cole	
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/22	**Diluent:**	Dechlorinated Tap Water	
Ending Date:	26 Jul-24	**Species:**	Pimephales promelas	**Brine:**		
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	Aquatox, AR	**Age:**

Sample ID:	03-4353-3050	**Code:**	2324-2644-02 FM	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	%	95% LCL	95% UCL	TU
21-1451-7203	7d Survival Rate	Linear Interpolation (ICPIN)	LC15	>100	---	---	<1
			LC20	>100	---	---	<1
			LC25	>100	---	---	<1
			LC40	>100	---	---	<1
			LC50	>100	---	---	<1
02-4212-5015	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	IC15	>100	---	---	<1
			IC20	>100	---	---	<1
			IC25	>100	---	---	<1
			IC40	>100	---	---	<1
			IC50	>100	---	---	<1

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9750	0.8954	1.0550	0.9000	1.0000	0.0250	0.0500	5.13%	0.00%
1.6		4	0.9750	0.8954	1.0550	0.9000	1.0000	0.0250	0.0500	5.13%	0.00%
3.2		4	0.9500	0.7909	1.1090	0.8000	1.0000	0.0500	0.1000	10.53%	2.56%
6.3		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-2.56%
12		4	0.9250	0.7727	1.0770	0.8000	1.0000	0.0479	0.0957	10.35%	5.13%
25		4	0.9750	0.8954	1.0550	0.9000	1.0000	0.0250	0.0500	5.13%	0.00%
50		4	0.9750	0.8954	1.0550	0.9000	1.0000	0.0250	0.0500	5.13%	0.00%
100		4	0.9750	0.8954	1.0550	0.9000	1.0000	0.0250	0.0500	5.13%	0.00%

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.467	0.4005	0.5335	0.413	0.512	0.02091	0.04182	8.95%	0.00%
1.6		4	0.4448	0.3883	0.5012	0.407	0.492	0.01774	0.03547	7.98%	4.76%
3.2		4	0.4114	0.3147	0.5081	0.331	0.4767	0.03039	0.06078	14.77%	11.90%
6.3		4	0.4722	0.4119	0.5326	0.434	0.522	0.01897	0.03793	8.03%	-1.12%
12		4	0.4585	0.3908	0.5262	0.411	0.506	0.02129	0.04257	9.28%	1.82%
25		4	0.4335	0.3834	0.4836	0.395	0.463	0.01573	0.03147	7.26%	7.17%
50		4	0.4875	0.3554	0.6196	0.445	0.612	0.04151	0.08301	17.03%	-4.39%
100		4	0.4493	0.421	0.4775	0.423	0.462	0.008873	0.01775	3.95%	3.80%

Fathead Minnow 7-d Larval Survival and Growth Test **Nautilus Environmental Calgary**

7d Survival Rate Detail MD5: 07953ADC5884ADAA67DC18C9047614BA

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	0.9000	1.0000
1.6		1.0000	1.0000	0.9000	1.0000
3.2		0.8000	1.0000	1.0000	1.0000
6.3		1.0000	1.0000	1.0000	1.0000
12		0.9000	0.8000	1.0000	1.0000
25		1.0000	1.0000	0.9000	1.0000
50		1.0000	1.0000	0.9000	1.0000
100		1.0000	1.0000	1.0000	0.9000

Mean Dry Biomass-mg Detail MD5: 8893E06F02B488A92A18535DED44913B

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.46	0.413	0.483	0.512
1.6		0.446	0.407	0.434	0.492
3.2		0.331	0.408	0.43	0.4767
6.3		0.479	0.454	0.434	0.522
12		0.411	0.437	0.506	0.48
25		0.395	0.421	0.455	0.463
50		0.445	0.445	0.448	0.612
100		0.455	0.423	0.457	0.462

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	10/10	10/10	9/10	10/10
1.6		10/10	10/10	9/10	10/10
3.2		8/10	10/10	10/10	9/9
6.3		10/10	10/10	10/10	10/10
12		9/10	8/10	10/10	10/10
25		10/10	10/10	9/10	10/10
50		10/10	10/10	9/10	10/10
100		10/10	10/10	10/10	9/10

CETIS Analytical Report

Report Date:	10 Sep-24 13:22 (p 1 of 2)
Test Code/ID:	2324-2644-02 FM / 15-5627-6777

Fathead Minnow 7-d Larval Survival and Growth Test — **Nautilus Environmental Calgary**

Analysis ID:	21-1451-7203	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETIS v2.1.5
Analyzed:	10 Sep-24 13:22	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	10 Sep-24 0:00	**MD5 Hash:**	07953ADC5884ADAA67DC18C9047614BA	**Editor ID:**	009-313-022-5

Batch ID:	19-0451-0775	**Test Type:**	Growth-Survival (7d)	**Analyst:**	Lily Cole		
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/22	**Diluent:**	Dechlorinated Tap Water		
Ending Date:	26 Jul-24	**Species:**	Pimephales promelas	**Brine:**			
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	Aquatox, AR	**Age:**	

Sample ID:	03-4353-3050	**Code:**	2324-2644-02 FM	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	2015900	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
LC15	>100	---	---	<1	---	---
LC20	>100	---	---	<1	---	---
LC25	>100	---	---	<1	---	---
LC40	>100	---	---	<1	---	---
LC50	>100	---	---	<1	---	---

7d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**ΣA/ΣB**	**Mean**	**%Effect**
0	N	4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9750	0.00%
1.6		4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9750	0.00%
3.2		4	0.9500	1.0000	0.8000	1.0000	10.53%	2.56%	37/39	0.9750	0.00%
6.3		4	1.0000	1.0000	1.0000	1.0000	0.00%	-2.56%	40/40	0.9750	0.00%
12		4	0.9250	0.9500	0.8000	1.0000	10.35%	5.13%	37/40	0.9625	1.28%
25		4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9625	1.28%
50		4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9625	1.28%
100		4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9625	1.28%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	0.9000	1.0000
1.6		1.0000	1.0000	0.9000	1.0000
3.2		0.8000	1.0000	1.0000	1.0000
6.3		1.0000	1.0000	1.0000	1.0000
12		0.9000	0.8000	1.0000	1.0000
25		1.0000	1.0000	0.9000	1.0000
50		1.0000	1.0000	0.9000	1.0000
100		1.0000	1.0000	1.0000	0.9000

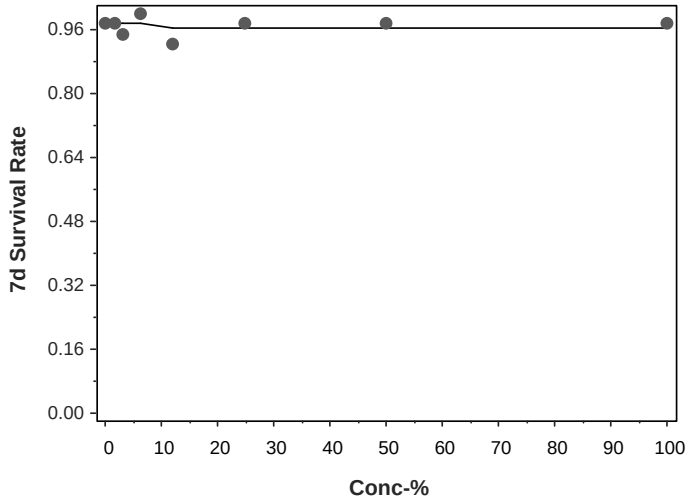
7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	10/10	10/10	9/10	10/10
1.6		10/10	10/10	9/10	10/10
3.2		8/10	10/10	10/10	9/9
6.3		10/10	10/10	10/10	10/10
12		9/10	8/10	10/10	10/10
25		10/10	10/10	9/10	10/10
50		10/10	10/10	9/10	10/10
100		10/10	10/10	10/10	9/10

Fathead Minnow 7-d Larval Survival and Growth Test **Nautilus Environmental Calgary**

Analysis ID:	21-1451-7203	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETIS v2.1.5
Analyzed:	10 Sep-24 13:22	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	10 Sep-24 0:00	**MD5 Hash:**	07953ADC5884ADAA67DC18C9047614BA	**Editor ID:**	009-313-022-5

Graphics



CETIS Analytical Report

Test Code/ID: 2324-2644-02 FM / 15-5627-6777

Fathead Minnow 7-d Larval Survival and Growth Test — **Nautilus Environmental Calgary**

Analysis ID:	02-4212-5015	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETIS v2.1.5
Analyzed:	10 Sep-24 13:23	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	10 Sep-24 0:00	**MD5 Hash:**	8893E06F02B488A92A18535DED44913B	**Editor ID:**	009-313-022-5

Batch ID:	19-0451-0775	**Test Type:**	Growth-Survival (7d)	**Analyst:**	Lily Cole	
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/22	**Diluent:**	Dechlorinated Tap Water	
Ending Date:	26 Jul-24	**Species:**	Pimephales promelas	**Brine:**		
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	Aquatox, AR	**Age:**

Sample ID:	03-4353-3050	**Code:**	2324-2644-02 FM	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	1381824	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary

			Calculated Variate						Isotonic Variate	
Conc-%	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	N	4	0.467	0.4715	0.413	0.512	8.95%	0.00%	0.467	0.00%
1.6		4	0.4448	0.44	0.407	0.492	7.98%	4.76%	0.4513	3.36%
3.2		4	0.4114	0.419	0.331	0.4767	14.77%	11.90%	0.4513	3.36%
6.3		4	0.4722	0.4665	0.434	0.522	8.03%	-1.12%	0.4513	3.36%
12		4	0.4585	0.4585	0.411	0.506	9.28%	1.82%	0.4513	3.36%
25		4	0.4335	0.438	0.395	0.463	7.26%	7.17%	0.4513	3.36%
50		4	0.4875	0.4465	0.445	0.612	17.03%	-4.39%	0.4513	3.36%
100		4	0.4492	0.456	0.423	0.462	3.95%	3.80%	0.4492	3.80%

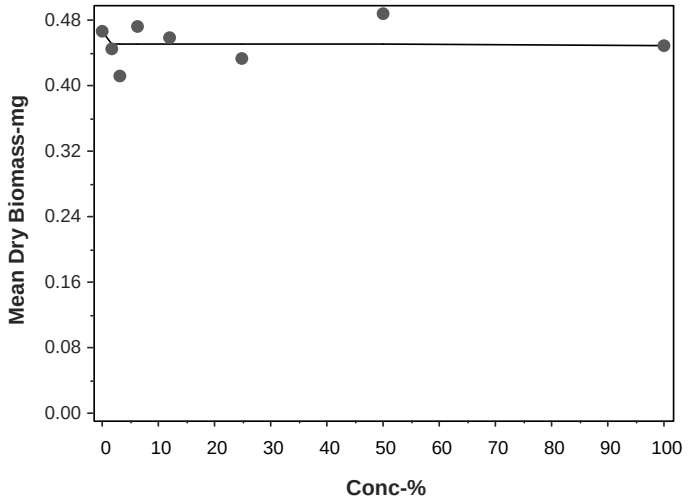
Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.46	0.413	0.483	0.512
1.6		0.446	0.407	0.434	0.492
3.2		0.331	0.408	0.43	0.4767
6.3		0.479	0.454	0.434	0.522
12		0.411	0.437	0.506	0.48
25		0.395	0.421	0.455	0.463
50		0.445	0.445	0.448	0.612
100		0.455	0.423	0.457	0.462

Fathead Minnow 7-d Larval Survival and Growth Test **Nautilus Environmental Calgary**

Analysis ID:	02-4212-5015	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETIS v2.1.5
Analyzed:	10 Sep-24 13:23	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Edit Date:	10 Sep-24 0:00	**MD5 Hash:**	8893E06F02B488A92A18535DED44913B	**Editor ID:**	009-313-022-5

Graphics



APPENDIX D – *Lemna minor* Toxicity Test Data

NAUTILUS ENVIRONMENTAL

Lemna Test Bench Sheet

Method LMD Client ALS 106 Reference 2324-2644-02

Test Log

Date	Day	Time	Initial	Rotate	Light Level* (**4000-5600**)	Temperature (°C) (range: **23-27°C**) Control	3%	24%	97%	Daily Data Review
2024-07-19	0	1340	LC	-	4140	26	→	→	→	BS
2024-07-20	1	0810	KZ	Y	4050	26	→	→	→	YC
2024-07-21	2	0815	BP	Y	4820	25	→	→	→	AI
2024-07-22	3	0800	KN	Y	4030	25	→	→	→	AI
2024-07-23	4	0815	AP	Y	4230	25	→	→	→	AM
2024-07-24	5	0840	BH	Y	4020	26	→	→	→	MC
2024-07-25	6	0810	BP	Y	4700	26	→	→	→	AI
2024-07-26	7	1330	XC	—	4680	26	→	→	→	KU

*taken at centre

Sample Information

Initial pH: 7.2
Initial EC (µS/cm): 3070
Initial DO (mg/L): 8.4
Initial Temp (°C): 23

Biology (Number of Fronds)

Concentration (%) / Replicate	ctl	1.5	3.0	6.1	12.1	24.25	48.5	97
day 0								
a	6	6	6	6	6	6	6	6
b	6	6	6	6	6	6	6	6
c	6	6	6	6	6	6	6	6
d	6	6	6	6	6	6	6	6
day 7								
a	56	56	54	53	54	51	54	33
b	55	62	62	50	55	52	52	41
c	60	59	51	55	57	49	43	32
d	62	61	63	57	53	60	39	28

Validity Criteria: Controls must have a ≥ 8 fold increase in frond number (average of 48)

Appearance of Fronds

Concentration (%)	Day 0	Day 7
Control	medium green, short roots, all healthy	med green, long roots, all healthy
1.5	medium green, short roots, all healthy	
3.0	medium green, short roots, all healthy	
6.1	medium green, short roots, all healthy	
12.1	medium green, short roots, all healthy	
24.3	medium green, short roots, all healthy	
48.5	medium green, short roots, all healthy	algae contamination increases w/concentration
97	medium green, short roots, all healthy	med green, med roots, small fronds, green algae

Notes: Chl=chlorosis, Nec=necorsis, Yel=yellow fronds, Asf=abnormally sized fronds, Gib=gibbosity, col dest=conlony destruction, root dest=root destruction, Lob=loss of buoyancy

Reviewed By: OP Date Reviewed: ~~2024-08-01~~

NAUTILUS ENVIRONMENTAL

Lemna Test Bench Sheet

Method LMD Client ALS 106 Reference 2324-2644-02

Chem. Cart Used
Day 0: 3
Day 7: 2

Chemistry

Concentration (%)	ctl	1.5	3.0	6.1	12.1	24.25	48.5	97
New Solutions (day 0)								
pH (units) (range: 6.5-9.5)	8.2	8.3	8.3	8.3	8.2	8.1	8.0	7.8
EC (uS/cm)	894	918	966	1055	1260	1609	2370	3680
DO (mg/L)	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Temperature (°C) (25±2)	23	23	23	23	23	23	23	23
Old Solutions (day 7)								
pH (units) (range: 6.5-9.5)	8.3	8.6	8.8	9.0	9.1	9.2	9.0	8.8
EC (uS/cm)	969	963	1021	1105	1316	1678	2510	3820
DO (mg/L)	7.4	8.4	9.5	10.3	11.3	12.1	12.0	14.0
Temperature (°C) (25±2)	23	23	23	23	23	23	23	23

Comments:

Quality Assurance

Organism batch (date culture was started) 2024/07/11

Age of test organisms (7-10d): 8

Light levels of test area (4000-5600 lux) measured at sample surface: left 4080, center 4140, right 4010

Test organisms were acclimated for 18-24 hours in APHA media and appeared healthy before use: (Yes)/No

Average number of fronds in QA cups at turnover (A to C): 31

Fold Increase in culture prior to testing: 10x

Sample Treatment

supplemented with nutrients (Y)/ N

pH adjusted Y / (N) if Y, how & to what?

observed under microscope (Y)/ N

filtered Y / (N) if Y, how & what size?

preaerated (Y)/ N if Y, how long and at what rate*?

*must be < 100 bubbles/minute for 20 minutes

Dilution Water Treatment

pH adjusted to 8.3±0.1 (Y)/ N

preaerated (Y)/ N if Y, how long and at what rate*?

*must be < 100 bubbles/minute for ≥2 hours

Other

Reviewed By: [signature] Date Reviewed: 2024-08-01

NAUTILUS ENVIRONMENTAL

Organism Weights Bench Sheet

Client ALS 106 Sample 2324-2644-02 Organism LMO Batch 2624/07/11

	Item Weighed	Date	Initials	Balance*
Initial Weight (mg):	dried pan	2024/07/21	BP	#3
Final Weight (mg):	dried pan + organisms	24/07/28	KZ	3

* same balance should be used for initial and final weights
* for FM/HA/CT, must use scale with 0.01 mg accuracy

Concentration

Replicate	CTL Initial	CTL Final	1.5 Initial	1.5 Final	3 Initial	3 Final	6.1 Initial	6.1 Final	12.1 Initial	12.1 Final	24.3 Initial	24.3 Final
a	1007.22	1013.40	1013.02	1018.97	1003.00	1008.91	1013.29	1019.05	1009.45	1015.25	999.60	1004.89
b	1004.48	1010.45	1009.05	1015.98	1010.67	1017.60	1011.60	1016.80	1004.60	~~1016.80~~ KZ	1003.97	1009.14
c	1012.25	1019.39	1014.26	1021.20	1005.21	1010.72	~~1005.~~ BP	1010.37	1012.10	1018.24	992.87	998.10
d	1004.05	1011.14	1003.14	1009.53	1000.42	1007.19	1008.18	1014.49	1013.97	1019.35	1004.39	1011.15
e							1004.93			1010.44		

Concentration

Replicate	48.5 Initial	48.5 Final	97 Initial	97 Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
a	999.89	1005.32	1013.88	1017.45								
b	1009.67	1015.01	1020.02	1024.79								
c	1002.82	1007.25	999.45	1003.59								
d	1010.58	1015.08	1016.57	1020.84								
e												

Balance Calibration Check:

	Initial	Final
first pan weighed:	CTLA	CTLA
weight of first pan:	1007.22	1013.40
first pan after all other pans weighed:	1007.25	1013.42
% difference <5%:	Yes/No	Yes/No

% difference = (initial weight - reweight) / (initial weight + reweight) / 2) × 100%

Test Validity Met: Yes/No/NA

Results are Logical:** Yes/No

** no negative numbers, consistent values across replicates

If "no" is circled for any parameter, notify Lab Supervisor/ QA Group to determine appropriate action

Reviewed By: [signature] Date Reviewed: 2024 -08- 0 1

CETIS Summary Report

Test Code/ID: 2324-2644-02 LM / 21-3042-4471

Lemna Growth Inhibition Test — **Nautilus Environmental Calgary**

Batch ID:	13-5846-4678	**Test Type:**	Lemna Growth	**Analyst:**	Lily Cole		
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/37	**Diluent:**	Lemna Test Media		
Ending Date:	26 Jul-24	**Species:**	Lemna minor	**Brine:**			
Test Length:	7d 0h	**Taxon:**	Tracheophyta	**Source:**	In-House Culture	**Age:**	

Sample ID:	06-0779-9929	**Code:**	2324-2644-02 LM	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	PMSD	TU
05-1238-6448	Frond Count	Dunnett Multiple Comparison Test	97	>97	---	15.4%	1
13-4061-7271	Total Dry Weight-mg	Dunnett Multiple Comparison Test	97	>97	---	14.5%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	%	95% LCL	95% UCL	TU
05-1046-0341	Frond Count	NLR: 3P Log-Gompertz	IC5	14.14	3.581	22.95	7.1
			IC10	24.72	13	35.57	4
			IC15	34.59	22.3	46.52	2.9
			IC20	44.24	32.04	56.42	2.3
			IC25	53.87	42.02	65.94	1.9
			IC40	84.1	69.69	99.48	1.2
			IC50	106.6	84.27	132.1	0.9
01-4888-9790	Total Dry Weight-mg	NLR: 3P Log-Gompertz	IC5	2.015	0.1599	5.784	49.6
			IC10	7.521	2.941	14.27	13.3
			IC15	16.62	9.025	26.78	6
			IC20	29.7	19.04	43.14	3.4
			IC25	47.27	32.16	66.07	2.1
			IC40	135.2	72.63	230.2	0.7
			IC50	236.3	99.21	504.2	0.4

Frond Count Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	52.25	46.99	57.51	49	56	1.652	3.304	6.32%	0.00%
1.5		4	53.5	49.29	57.71	50	56	1.323	2.646	4.95%	-2.39%
3		4	51.5	42.09	60.91	45	57	2.958	5.916	11.49%	1.44%
6.1		4	47.75	43	52.5	44	51	1.493	2.986	6.25%	8.61%
12.3		4	48.75	46.03	51.47	47	51	0.8539	1.708	3.50%	6.70%
24		4	47	39.31	54.69	43	54	2.415	4.83	10.28%	10.05%
49		4	41	29.6	52.4	33	48	3.582	7.165	17.47%	21.53%
97		4	27.5	18.83	36.17	22	35	2.723	5.447	19.81%	47.37%

Total Dry Weight-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	6.595	5.629	7.561	5.97	7.14	0.3034	0.6069	9.20%	0.00%
1.5		4	6.552	5.794	7.311	5.95	6.94	0.2384	0.4768	7.28%	0.64%
3		4	6.28	5.196	7.364	5.51	6.93	0.3406	0.6813	10.85%	4.78%
6.1		4	5.678	4.914	6.441	5.2	6.31	0.24	0.48	8.45%	13.91%
12.3		4	5.79	5.293	6.287	5.38	6.14	0.1563	0.3126	5.40%	12.21%
24		4	5.612	4.39	6.833	5.166	6.76	0.3837	0.7673	13.67%	14.91%
49		4	4.925	4.077	5.773	4.43	5.43	0.2666	0.5332	10.83%	25.32%
97		4	4.312	3.81	4.815	4.07	4.77	0.158	0.3161	7.33%	34.61%

Lemna Growth Inhibition Test **Nautilus Environmental Calgary**

Frond Count Detail MD5: 4BAF631B9C7B791C4FE59805D80BE761

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	50	49	54	56
1.5		50	56	53	55
3		48	56	45	57
6.1		47	44	49	51
12.3		48	49	51	47
24		45	46	43	54
49		48	46	37	33
97		27	35	26	22

Total Dry Weight-mg Detail MD5: F626BAA3C14D0E31EF1A11B11D16C285

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	6.18	5.97	7.14	7.09
1.5		5.95	6.93	6.94	6.39
3		5.91	6.93	5.51	6.77
6.1		5.76	5.2	5.44	6.31
12.3		5.8	5.84	6.14	5.38
24		5.29	5.166	5.23	6.76
49		5.43	5.34	4.43	4.5
97		4.07	4.77	4.14	4.27

CETIS Analytical Report

Test Code/ID: 2324-2644-02 LM / 21-3042-4471

Lemna Growth Inhibition Test — **Nautilus Environmental Calgary**

Analysis ID:	05-1238-6448	**Endpoint:**	Frond Count	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:46	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	27 Aug-24 0:00	**MD5 Hash:**	4BAF631B9C7B791C4FE59805D80BE761	**Editor ID:**	002-704-782-4

Batch ID:	13-5846-4678	**Test Type:**	Lemna Growth	**Analyst:**	Lily Cole	
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/37	**Diluent:**	Lemna Test Media	
Ending Date:	26 Jul-24	**Species:**	Lemna minor	**Brine:**		
Test Length:	7d 0h	**Taxon:**	Tracheophyta	**Source:**	In-House Culture	**Age:**

Sample ID:	06-0779-9929	**Code:**	2324-2644-02 LM	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C < T	97	>97	---	1	8.068	15.44%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		1.5	6	0.3845	2.482	8.068	CDF	0.7534	Non-Significant Effect
		3	6	-0.2307	2.482	8.068	CDF	0.9235	Non-Significant Effect
		6.1	6	-1.384	2.482	8.068	CDF	0.9971	Non-Significant Effect
		12.3	6	-1.077	2.482	8.068	CDF	0.9922	Non-Significant Effect
		24	6	-1.615	2.482	8.068	CDF	0.9987	Non-Significant Effect
		49	6	-3.461	2.482	8.068	CDF	1.0000	Non-Significant Effect
		97	6	-7.614	2.482	8.068	CDF	1.0000	Non-Significant Effect

Auxiliary Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Outlier	Grubbs Extreme Value Test	1.978	2.938	1.0000	No Outliers Detected

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2016.97	288.138	7	13.63	<1.0E-05	Significant Effect
Error	507.25	21.1354	24			
Total	2524.22		31			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Variance	Bartlett Equality of Variance Test	7.412	14.07	0.3873	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9755	0.9338	0.6620	Normal Distribution

Frond Count Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	52.25	46.99	57.51	52	49	56	1.652	6.32%	0.00%
1.5		4	53.5	49.29	57.71	54	50	56	1.323	4.95%	-2.39%
3		4	51.5	42.09	60.91	52	45	57	2.958	11.49%	1.44%
6.1		4	47.75	43	52.5	48	44	51	1.493	6.25%	8.61%
12.3		4	48.75	46.03	51.47	48.5	47	51	0.8539	3.50%	6.70%
24		4	47	39.31	54.69	45.5	43	54	2.415	10.28%	10.05%
49		4	41	29.6	52.4	41.5	33	48	3.582	17.47%	21.53%
97		4	27.5	18.83	36.17	26.5	22	35	2.723	19.81%	47.37%

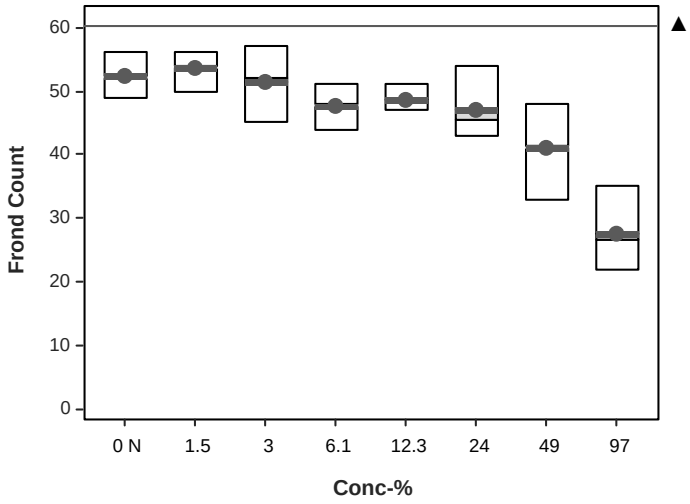
Lemna Growth Inhibition Test | **Nautilus Environmental Calgary**

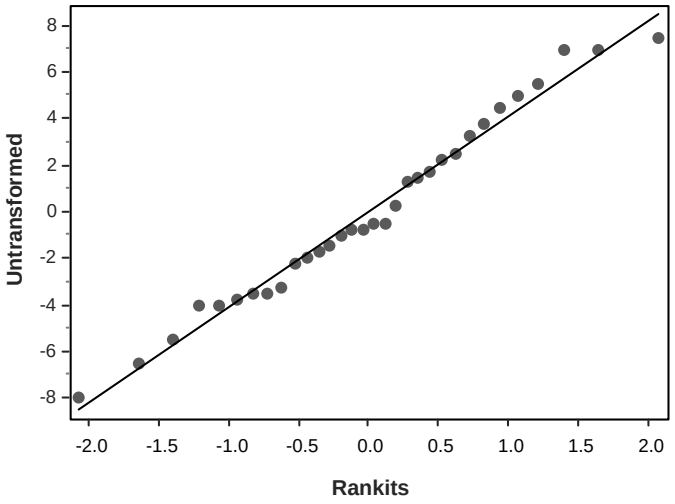
Analysis ID:	05-1238-6448	**Endpoint:**	Frond Count	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:46	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	27 Aug-24 0:00	**MD5 Hash:**	4BAF631B9C7B791C4FE59805D80BE761	**Editor ID:**	002-704-782-4

Frond Count Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	50	49	54	56
1.5		50	56	53	55
3		48	56	45	57
6.1		47	44	49	51
12.3		48	49	51	47
24		45	46	43	54
49		48	46	37	33
97		27	35	26	22

Graphics





CETIS Analytical Report

Test Code/ID: 2324-2644-02 LM / 21-3042-4471

Lemna Growth Inhibition Test — **Nautilus Environmental Calgary**

Analysis ID:	05-1046-0341	**Endpoint:**	Frond Count	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:48	**Analysis:**	Nonlinear Regression (NLR)	**Status Level:**	1
Edit Date:	27 Aug-24 0:00	**MD5 Hash:**	4BAF631B9C7B791C4FE59805D80BE761	**Editor ID:**	002-704-782-4

Batch ID:	13-5846-4678	**Test Type:**	Lemna Growth	**Analyst:**	Lily Cole	
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/37	**Diluent:**	Lemna Test Media	
Ending Date:	26 Jul-24	**Species:**	Lemna minor	**Brine:**		
Test Length:	7d 0h	**Taxon:**	Tracheophyta	**Source:**	In-House Culture	**Age:**

Sample ID:	06-0779-9929	**Code:**	2324-2644-02 LM	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Non-Linear Regression Options

Model Name and Function	Weighting Function	PTBS Function	X Trans	Y Trans
3P Log-Gompertz: μ=α·exp[log[0.5]·[x/δ]^γ]	Normal [ω=1]	Off [μ*=μ]	None	None

Regression Summary

Iters	LL	AICc	BIC	Adj R2	PMSD	Thresh	Optimize	F Stat	P-Value	Decision(α:5%)
10	-46.54	99.93	103.5	0.7594	4.92%	51.64	Yes	0.5765	0.7174	Non-Significant Lack-of-Fit

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC5	14.14	3.581	22.95	7.1	4.4	27.9
IC10	24.72	13	35.57	4	2.8	7.7
IC15	34.59	22.3	46.52	2.9	2.1	4.5
IC20	44.24	32.04	56.42	2.3	1.8	3.1
IC25	53.87	42.02	65.94	1.9	1.5	2.4
IC40	84.1	69.69	99.48	1.2	1	1.4
IC50	106.6	84.27	132.1	0.9	0.8	1.2

Regression Parameters

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision(α:5%)
α	51.64	1.242	49.1	54.18	41.58	<1.0E-05	Significant Parameter
γ	1.289	0.2987	0.6782	1.9	4.315	0.0002	Significant Parameter
δ	106.6	11.33	83.4	129.7	9.408	<1.0E-05	Significant Parameter

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Model	70130	23380	3	1193	<1.0E-05	Significant Effect
Lack of Fit	60.93	12.19	5	0.5765	0.7174	Non-Significant Lack-of-Fit
Pure Error	507.2	21.14	24			
Residual	568.2	19.59	29			

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision(α:5%)
Outlier	Grubbs Extreme Value Test	1.861	2.938	1.0000	No Outliers Detected
Variance	Bartlett Equality of Variance Test	7.412	14.07	0.3873	Equal Variances
	Mod Levene Equality of Variance	1.969	2.423	0.1021	Equal Variances
Distribution	Anderson-Darling A2 Test	0.623	2.492	0.1055	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9507	0.9338	0.1507	Normal Distribution

Lemna Growth Inhibition Test | **Nautilus Environmental Calgary**

Analysis ID:	05-1046-0341	**Endpoint:**	Frond Count	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:48	**Analysis:**	Nonlinear Regression (NLR)	**Status Level:**	1
Edit Date:	27 Aug-24 0:00	**MD5 Hash:**	4BAF631B9C7B791C4FE59805D80BE761	**Editor ID:**	002-704-782-4

Frond Count Summary

			Calculated Variate							
Conc-%	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**Std Err**	**Std Dev**	**CV%**	**%Effect**
0	N	4	52.25	52	49	56	1.652	3.304	6.32%	0.00%
1.5		4	53.5	54	50	56	1.323	2.646	4.95%	-2.39%
3		4	51.5	52	45	57	2.958	5.916	11.49%	1.44%
6.1		4	47.75	48	44	51	1.493	2.986	6.25%	8.61%
12.3		4	48.75	48.5	47	51	0.8539	1.708	3.50%	6.70%
24		4	47	45.5	43	54	2.415	4.83	10.28%	10.05%
49		4	41	41.5	33	48	3.582	7.165	17.47%	21.53%
97		4	27.5	26.5	22	35	2.723	5.447	19.81%	47.37%

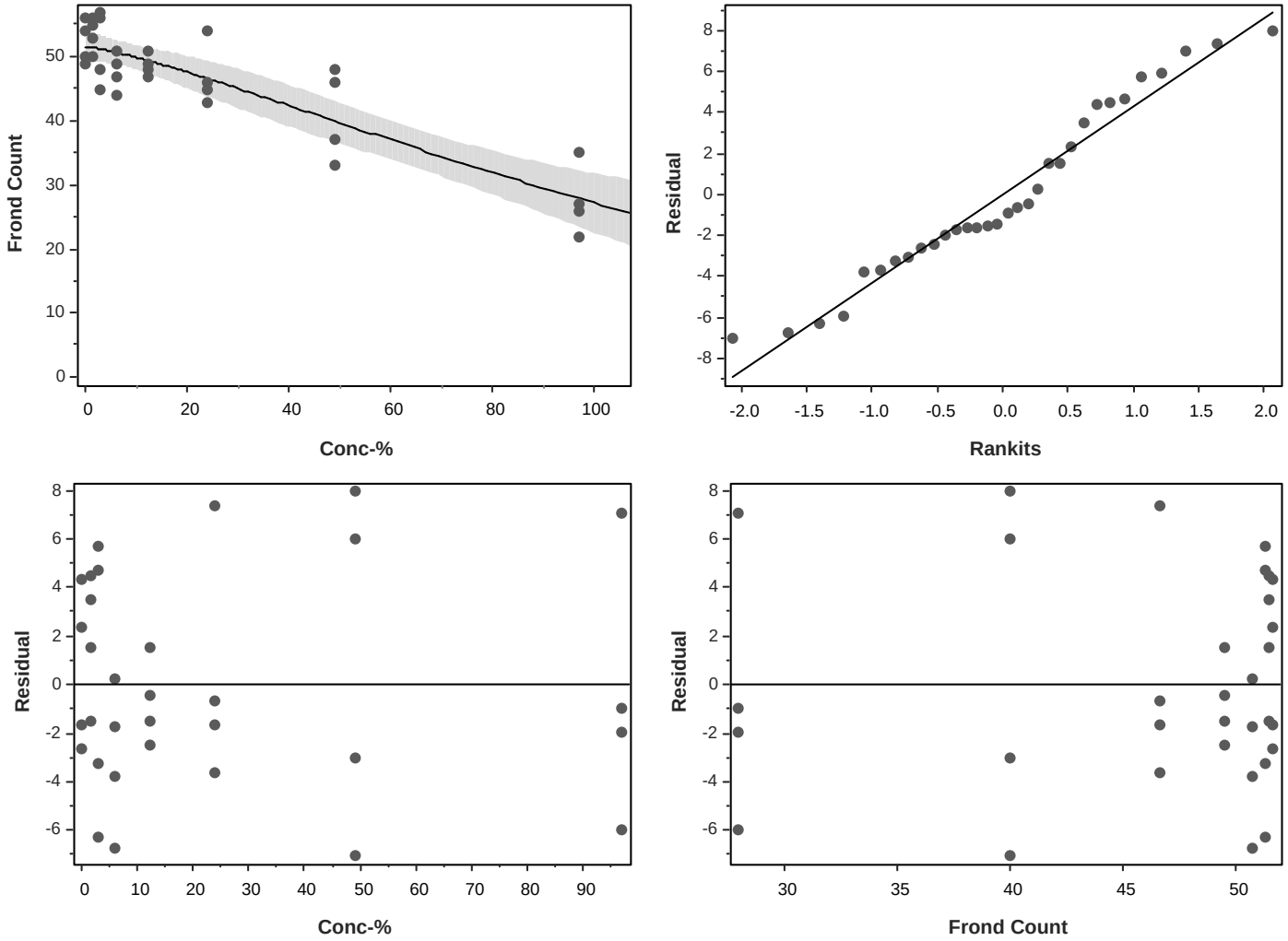
Frond Count Detail

Conc-%	**Code**	**Rep 1**	**Rep 2**	**Rep 3**	**Rep 4**
0	N	50	49	54	56
1.5		50	56	53	55
3		48	56	45	57
6.1		47	44	49	51
12.3		48	49	51	47
24		45	46	43	54
49		48	46	37	33
97		27	35	26	22

Lemna Growth Inhibition Test | **Nautilus Environmental Calgary**

Analysis ID:	05-1046-0341	**Endpoint:**	Frond Count	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:48	**Analysis:**	Nonlinear Regression (NLR)	**Status Level:**	1
Edit Date:	27 Aug-24 0:00	**MD5 Hash:**	4BAF631B9C7B791C4FE59805D80BE761	**Editor ID:**	002-704-782-4

Graphics Model: 3P Log-Gompertz: μ=α·exp[log[0.5]·[x/δ]^γ] Distribution: Normal [ω=1]



CETIS Analytical Report

Test Code/ID: 2324-2644-02 LM / 21-3042-4471

Lemna Growth Inhibition Test — **Nautilus Environmental Calgary**

Analysis ID:	13-4061-7271	**Endpoint:**	Total Dry Weight-mg	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:42	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	27 Aug-24 0:00	**MD5 Hash:**	F626BAA3C14D0E31EF1A11B11D16C285	**Editor ID:**	002-704-782-4

Batch ID:	13-5846-4678	**Test Type:**	Lemna Growth	**Analyst:**	Lily Cole		
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/37	**Diluent:**	Lemna Test Media		
Ending Date:	26 Jul-24	**Species:**	Lemna minor	**Brine:**			
Test Length:	7d 0h	**Taxon:**	Tracheophyta	**Source:**	In-House Culture	**Age:**	

Sample ID:	06-0779-9929	**Code:**	2324-2644-02 LM	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C < T	97	>97	---	1	0.9534	14.46%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		1.5	6	-0.1106	2.482	0.9534	CDF	0.9004	Non-Significant Effect
		3	6	-0.82	2.482	0.9534	CDF	0.9833	Non-Significant Effect
		6.1	6	-2.388	2.482	0.9534	CDF	0.9999	Non-Significant Effect
		12.3	6	-2.096	2.482	0.9534	CDF	0.9998	Non-Significant Effect
		24	6	-2.56	2.482	0.9534	CDF	1.0000	Non-Significant Effect
		49	6	-4.347	2.482	0.9534	CDF	1.0000	Non-Significant Effect
		97	6	-5.942	2.482	0.9534	CDF	1.0000	Non-Significant Effect

Auxiliary Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Outlier	Grubbs Extreme Value Test	2.403	2.938	0.3862	No Outliers Detected

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	17.6152	2.51646	7	8.527	3.0E-05	Significant Effect
Error	7.08285	0.295119	24			
Total	24.6981		31			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Variance	Bartlett Equality of Variance Test	3.651	14.07	0.8190	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9379	0.9338	0.0654	Normal Distribution

Total Dry Weight-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	6.595	5.629	7.561	6.635	5.97	7.14	0.3034	9.20%	0.00%
1.5		4	6.552	5.794	7.311	6.66	5.95	6.94	0.2384	7.28%	0.64%
3		4	6.28	5.196	7.364	6.34	5.51	6.93	0.3406	10.85%	4.78%
6.1		4	5.678	4.914	6.441	5.6	5.2	6.31	0.24	8.45%	13.91%
12.3		4	5.79	5.293	6.287	5.82	5.38	6.14	0.1563	5.40%	12.21%
24		4	5.612	4.39	6.833	5.26	5.166	6.76	0.3837	13.67%	14.91%
49		4	4.925	4.077	5.773	4.92	4.43	5.43	0.2666	10.83%	25.32%
97		4	4.312	3.81	4.815	4.205	4.07	4.77	0.158	7.33%	34.61%

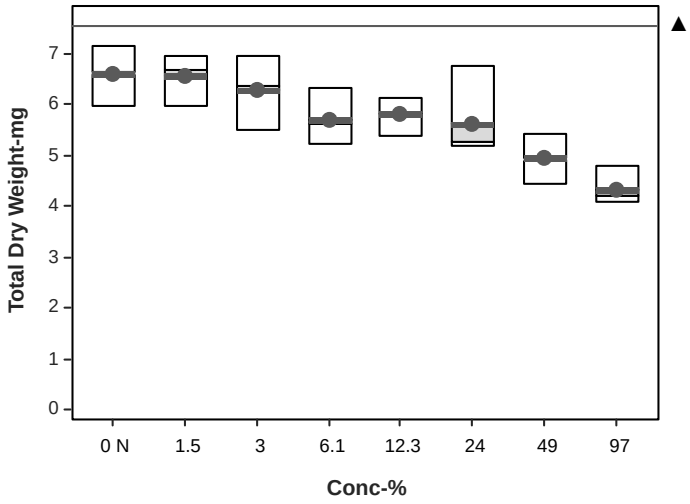
Lemna Growth Inhibition Test | **Nautilus Environmental Calgary**

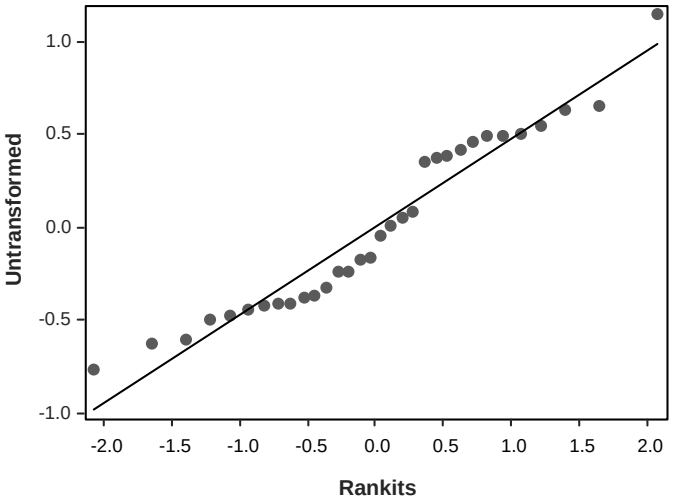
Analysis ID:	13-4061-7271	**Endpoint:**	Total Dry Weight-mg	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:42	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Edit Date:	27 Aug-24 0:00	**MD5 Hash:**	F626BAA3C14D0E31EF1A11B11D16C285	**Editor ID:**	002-704-782-4

Total Dry Weight-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	6.18	5.97	7.14	7.09
1.5		5.95	6.93	6.94	6.39
3		5.91	6.93	5.51	6.77
6.1		5.76	5.2	5.44	6.31
12.3		5.8	5.84	6.14	5.38
24		5.29	5.166	5.23	6.76
49		5.43	5.34	4.43	4.5
97		4.07	4.77	4.14	4.27

Graphics





CETIS Analytical Report

Test Code/ID: 2324-2644-02 LM / 21-3042-4471

Lemna Growth Inhibition Test — **Nautilus Environmental Calgary**

Analysis ID:	01-4888-9790	**Endpoint:**	Total Dry Weight-mg	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:44	**Analysis:**	Nonlinear Regression (NLR)	**Status Level:**	1
Edit Date:	27 Aug-24 0:00	**MD5 Hash:**	F626BAA3C14D0E31EF1A11B11D16C285	**Editor ID:**	002-704-782-4

Batch ID:	13-5846-4678	**Test Type:**	Lemna Growth	**Analyst:**	Lily Cole		
Start Date:	19 Jul-24	**Protocol:**	EC/EPS 1/RM/37	**Diluent:**	Lemna Test Media		
Ending Date:	26 Jul-24	**Species:**	Lemna minor	**Brine:**			
Test Length:	7d 0h	**Taxon:**	Tracheophyta	**Source:**	In-House Culture	**Age:**	

Sample ID:	06-0779-9929	**Code:**	2324-2644-02 LM	**Project:**	
Sample Date:	17 Jul-24	**Material:**	Water Sample	**Source:**	ALS Laboratories
Receipt Date:	18 Jul-24	**CAS (PC):**		**Station:**	YL2400933-002
Sample Age:	48h (18.7 °C)	**Client:**	ALS Laboratories		

Non-Linear Regression Options

Model Name and Function	Weighting Function	PTBS Function	X Trans	Y Trans
3P Log-Gompertz: μ=α·exp[log[0.5]·[x/δ]^γ]	Normal [ω=1]	Off [μ*=μ]	None	None

Regression Summary

Iters	LL	AICc	BIC	Adj R2	PMSD	Thresh	Optimize	F Stat	P-Value	Decision(α:5%)
5	21.85	-36.85	-33.31	0.6576	7.26%	6.634	Yes	0.5608	0.7289	Non-Significant Lack-of-Fit

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC5	2.015	0.1599	5.784	49.6	17.3	625.4
IC10	7.521	2.941	14.27	13.3	7	34
IC15	16.62	9.025	26.78	6	3.7	11.1
IC20	29.7	19.04	43.14	3.4	2.3	5.3
IC25	47.27	32.16	66.07	2.1	1.5	3.1
IC40	135.2	72.63	230.2	0.7	0.4	1.4
IC50	236.3	99.21	504.2	0.4	0.2	1

Regression Parameters

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision(α:5%)
α	6.634	0.2354	6.152	7.115	28.18	<1.0E-05	Significant Parameter
γ	0.5465	0.1511	0.2374	0.8555	3.617	0.0011	Significant Parameter
δ	236.3	84.16	64.19	408.4	2.808	0.0088	Significant Parameter

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Model	1063	354.3	3	1299	<1.0E-05	Significant Effect
Lack of Fit	0.8275	0.1655	5	0.5608	0.7289	Non-Significant Lack-of-Fit
Pure Error	7.083	0.2951	24			
Residual	7.91	0.2728	29			

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision(α:5%)
Outlier	Grubbs Extreme Value Test	2.616	2.938	0.1836	No Outliers Detected
Variance	Bartlett Equality of Variance Test	3.651	14.07	0.8190	Equal Variances
	Mod Levene Equality of Variance	0.7224	2.423	0.6544	Equal Variances
Distribution	Anderson-Darling A2 Test	0.5898	2.492	0.1277	Normal Distribution
	Shapiro-Wilk W Normality Test	0.956	0.9338	0.2130	Normal Distribution

Lemna Growth Inhibition Test | **Nautilus Environmental Calgary**

Analysis ID:	01-4888-9790	**Endpoint:**	Total Dry Weight-mg	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:44	**Analysis:**	Nonlinear Regression (NLR)	**Status Level:**	1
Edit Date:	27 Aug-24 0:00	**MD5 Hash:**	F626BAA3C14D0E31EF1A11B11D16C285	**Editor ID:**	002-704-782-4

Total Dry Weight-mg Summary

			Calculated Variate							
Conc-%	**Code**	**Count**	**Mean**	**Median**	**Min**	**Max**	**Std Err**	**Std Dev**	**CV%**	**%Effect**
0	N	4	6.595	6.635	5.97	7.14	0.3034	0.6069	9.20%	0.00%
1.5		4	6.552	6.66	5.95	6.94	0.2384	0.4768	7.28%	0.64%
3		4	6.28	6.34	5.51	6.93	0.3406	0.6813	10.85%	4.78%
6.1		4	5.678	5.6	5.2	6.31	0.24	0.48	8.45%	13.91%
12.3		4	5.79	5.82	5.38	6.14	0.1563	0.3126	5.40%	12.21%
24		4	5.612	5.26	5.166	6.76	0.3837	0.7673	13.67%	14.91%
49		4	4.925	4.92	4.43	5.43	0.2666	0.5332	10.83%	25.32%
97		4	4.312	4.205	4.07	4.77	0.158	0.3161	7.33%	34.61%

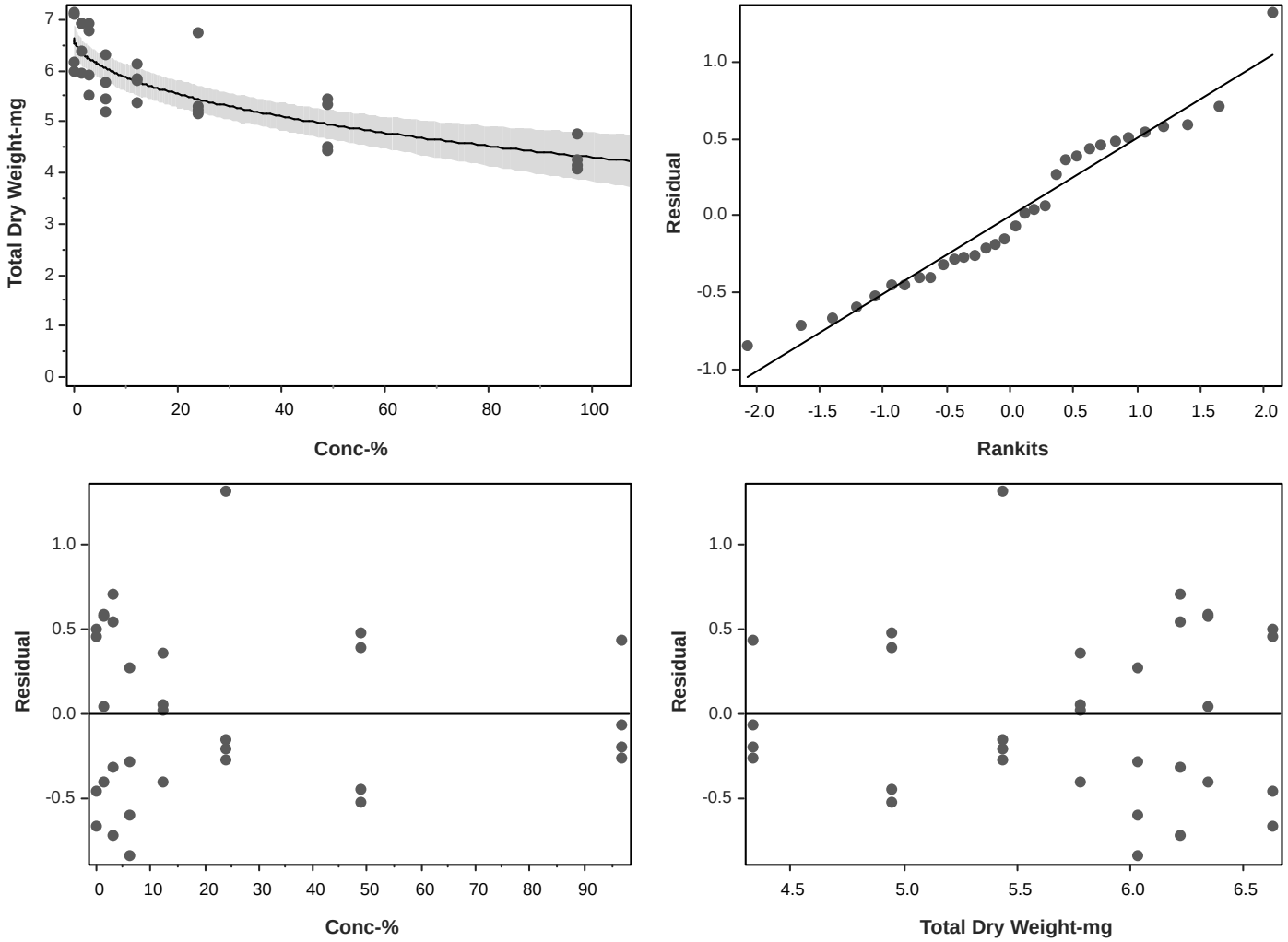
Total Dry Weight-mg Detail

Conc-%	**Code**	**Rep 1**	**Rep 2**	**Rep 3**	**Rep 4**
0	N	6.18	5.97	7.14	7.09
1.5		5.95	6.93	6.94	6.39
3		5.91	6.93	5.51	6.77
6.1		5.76	5.2	5.44	6.31
12.3		5.8	5.84	6.14	5.38
24		5.29	5.166	5.23	6.76
49		5.43	5.34	4.43	4.5
97		4.07	4.77	4.14	4.27

Lemna Growth Inhibition Test | **Nautilus Environmental Calgary**

Analysis ID:	01-4888-9790	**Endpoint:**	Total Dry Weight-mg	**CETIS Version:**	CETIS v2.1.5
Analyzed:	27 Aug-24 16:44	**Analysis:**	Nonlinear Regression (NLR)	**Status Level:**	1
Edit Date:	27 Aug-24 0:00	**MD5 Hash:**	F626BAA3C14D0E31EF1A11B11D16C285	**Editor ID:**	002-704-782-4

Graphics Model: 3P Log-Gompertz: μ=α·exp[log[0.5]·[x/δ]^γ] Distribution: Normal [ω=1]



APPENDIX E – *Oncorhynchus mykiss* Toxicity Test Data

NAUTILUS

Trout Bench Sheet

Method TRD Client ALS 106 Reference 2324-2644-01 Chamber 3

Test Log

Day	Date	Time	Initial	Chem. Cart	Double Counted	Daily Data Review
0	2024/07/19	1335 *	MS	7	BH	YC
1	2024/07/20	0920	BH	-	-	YC
2	2024/07/21	0835	BP	-	-	AI
3	2024/07/22	0845	BP	-	-	AI
4	2024/07/23	1310	AO	7	-	BS

Note: * ; time when the test was loaded with fish

Sample Information

Initial pH: 6.7
Initial EC (µS/cm): 3100
Salinity (ppt): 1

Sample Pre-Aeration

Aeration rate adjusted to 6.5 +/- 1 mL/min/L (yes/no)

Preaeration time	0 hours	0.5 hours	1 hour	1.5 hours	2 hours
DO(mg/L) of 100%	8.6	8.6			
Temp (°C) of 100%	16				

DO in mg/L (70% - 100% saturation)**
6.2 mg/L - 8.9 mg/L at 14°C
6.1 mg/L - 8.8 mg/L at 15°C
6.0 mg/L - 8.6 mg/L at 16°C
**corrected for altitude

Test Chemistry and Biology

Conc.	6.25	12.5	25	50	100		
pH (units) (range: 5.5-8.5)							
Day 0	8.0	8.0	8.0	7.9	7.9		
Day 4	7.9	8.0	7.9	7.9	7.6		
EC (uS/cm)							
Day 0	537	630	1105	1675	3180		
Day 4	552	699	1120	1703	3200		
DO (mg/L) (70-100% saturation at test temp.)							
Day 0	8.8	8.8	8.8	8.6	8.6		
Day 4	8.6	8.8	8.8	8.8	8.6		
Temperature (°C) (range: 14-16°C) MD							
Day 0	15	15	15	16	8 16		
Day 4	15	15	15	15	16		
Number Alive (In brackets number stressed)							
Day 0	10	10	10	10	10		
Day 1	10	10	10	10	10		
Day 2	10	10	10	10	10		
Day 3	10	10	10	10	10		
Day 4	10	10	10	10	10		

Unless otherwise noted, behavior is considered to be normal

Test Volume 18

Control Reference Number: 20240719CTLB/A MS

Comments :

Reviewed By: OP Date Reviewed: 2024-08-01

NAUTILUS

Control Trout Bench Sheet

Client NE Control Reference Number 20240719CTLA Chamber 3

Test Log

Day	Date	Time	Initial	Chem. Cart	Double Counted	Daily Data Review
0	2024/07/19	1315 *	MS	7	BH	SC
1	2024/07/20	0970	BH	-	-	SC
2	2024/07/21	0835	BP	-	-	A
3	2024/07/22	0845	BP	-	-	A
4	2024/07/23	1305	AO	7	-	BS

Note: * ; time when the test was loaded with fish

Sample Reference Number(s):
2324-2647
2324-2648
2324-2649
2324-2650 MS
~~2324-2441-01~~
2324-2644-01

Control Pre-Aeration

Aeration rate adjusted to 6.5 +/- 1 mL/min/L **yes/no**

Test Chemistry and Biology

Conc. CTL

pH (units) (range: **5.5-8.5**)

Day 0	8.0
Day 4	7.9

EC (uS/cm)

Day 0	384
Day 4	351

DO (mg/L) (**70-100% saturation at test temp.**)

Day 0	8.6
Day 4	8.6

DO in mg/L (70% - 100% saturation)**
6.2 mg/L - 8.9 mg/L at 14°C
6.1 mg/L - 8.8 mg/L at 15°C
6.0 mg/L - 8.6 mg/L at 16°C

**corrected for altitude

Temperature (°C) (range: **14-16°C**)

Day 0	16
Day 4	16

Number Alive (In brackets number stressed)

Day 0	10
Day 1	10
Day 2	10
Day 3	10
Day 4	10

Validity Criteria: must be ≤ 10% mortality and/or stressed behavior in the control

Unless otherwise noted, behavior is considered to be normal

Test Organism Information

Batch	20240508TR
Source	TROUTLODGE
Tank #	5
Held at 15± 2°C for ≥14 days (must be ≥14 days)	Y
Percent stock mortality (7 days prior to test, must be <2%)	0.08 ~~0.08~~
Test Volume (L)	16

Acceptable Test Volume Ranges
(10% of the control)

14 L control allows for 13 L - 15 L test(s)
16 L control allows for 14 L - 18 L test(s)
18 L control allows for 16 L - 20 L test(s)

Control Organism Data

Control Fish	Length (cm)	Weight (g)
1	3.9	0.5
2	3.9	0.6
3	3.3	0.3
4	3.6	0.4
5	4.1	0.6
6	3.3	0.5
7	3.7	0.4
8	3.6	0.4
9	3.6	0.4
10	3.5	0.4

Loading Density (g/L): (must be ≤0.5 g/L)	0.3
Mean Length (cm):	3.7
Length Range (cm):	3.3-4.1
Mean Weight (g): (Must be ≥0.3g)	0.5
Weight Range: (g):	0.3-0.6

Comments/Protocol Deviations :

Reviewed By: CC Date Reviewed: 2024/07/23

APPENDIX F – *Daphnia magna* Toxicity Test Data

NAUTILUS ENVIRONMENTAL

Daphnia Bench Sheet

Method DAD Client ALS106 Reference 2324-2644-01

Test Log

Day	Date	Time	Technician	Chem. Cart	Daily Data Review
0	2024/07/19	1230	LS/	2	KM
1	2024/07/20	0845	KZ	-	YC
2	2024/07/21	1130	AM	3	KO

Sample Information

Initial pH: 6.7
Initial EC (µS/cm): 3100
Salinity (ppt): 1

Lab Code	CTL	6.25	12.5	25	50	100				
pH (units) (range: 6.0-8.5)										
0	7.9	8.1	8.1	8.1	8.0	7.9				
2	8.4	8.3	8.3	8.2	8.1	8.0				
EC (uS/cm)										
0	381	596	787	1134	1852	3190				
2	385	572	758	1086	1838	2940				
DO (mg/L) (**40-100% saturation at test temp.**)										
0	7.9	7.9	7.9	8.0	7.9	7.9				
2	7.9	7.9	7.9	7.9	7.9	7.9				
Temperature (°C) (range: **18-22 °C**)										
0	20	20	20	20	20	20				
2	20	20	20	20	20	20				
Number Alive (I, immobile)										
0	10	10	10	10	10	10				
1	10	10	10	10	10	10				
2	10	10	10	10	10	10				

The pH of the sample was not adjusted prior to test setting, unless noted in the comments below

Validity Criteria: must be ≤ 10% mortality and/or abnormal behavior in the control

Notes: Immobile; daphnid can't swim after 60 sec. even if antenna still move
Unless otherwise noted, behaviour is considered to be normal

Culture
Young jar Wed D4 Jar(s) mortality 7 days prior to test (must be ≤25%) 0%

QA (previous month)
Days to first brood (≤12 days) 8
Average number of young produced (≥15 young) 39
Were test treatments randomized on test tray? Yes / No

Control Validity Criteria
Mean % mortality at 48 hours - 0
(must be ≤10%)

Sample
DO (mg/L) of sample prior to aeration: 7.7
DO % of sample prior to aeration: 100%
Duration of aeration (37.5 +/- 12.5 mL/min/L) : –
Hardness (mg $CaCO_3$/L) of 100% : 1347
Hardness of sample after adjustment (must be between 25 - 30 mg $CaCO_3$/L) –
Alkalinity of 100% sample (mg $CaCO_3$/L): –

Temperature (°C) of sample prior to aeration: 21
Is aeration required (<40% or >100%)? **Yes or No**
Filtered with 110um screen prior to testing **Yes or No**
Is hardness adjustment required (<25 mg $CaCO_3$/L)? **Yes or No**

Dilution Water
Pail label / preparation date PI 07/13
Hardness of dilution water (mg/L) 134

DO Levels (40-100% saturation) - corrected for altitude -
3.3 to 8.2 mg/L at 18°C
3.2 to 8.1 mg/L at 19°C
3.2 to 7.9 mg/L at 20°C
3.1 to 7.7 mg/L at 21°C
3.0 to 7.6 mg/L at 22°C

Comments/Observations:

Reviewed By: OP Date Reviewed: 2024-08-01

APPENDIX G – Chain-of-Custody Forms

f Custody
ronmental - Yellowknife
d Airport Road, Unit 116
owknife NT Canada X1A
3

195213

Nautilus Environmental (Calgary)
10828 27 Street SE Calgary AB Canada
T2Z 3V9

k Order Number: **YL2400933**
Original Receipt Date/Time Instructions Received
17/07/2024 13:05

Relinquished By
Date/Time

Received By
Date/Time
Receipt Temp

Return as Indicated: Results: ALSYK.ClientServices@alsglobal.com Invoice: ALSYK.ClientServices@alsglobal.com Electronic Data: ALSYK.ClientServices@alsglobal.com
Attention: Oliver Gregg

ALS Sample ID	Client ID	Matrix	Container Type	Test Codes	Method Description	Due Date	Sampling Date and Time	Remarks
YL2400933-001	SNP431-Acute -240717	Water	LDPE carboy 2324-2644 -01	DAP-LC50-48, TRT-LC50-96 19.4°C	Survival/LC50 Daphnia Magna 48 hours, Survival/LC50 Rainbow Trout (96 hours)	24-07-2024	17/07/2024 12:02	
YL2400933-001	SNP431-Acute -240717	Water	LDPE carboy			24-07-2024	17/07/2024 12:02	
YL2400933-002	SNP431-Sublet hal-240717	Water 5	LDPE carboy -02 2024/07/18 14:35 Buffalo Air 2x20L carboys 1x10L carboys Not Good Cond.	CER-LC50-7d, ALG-IC50-72h, FAT-LC50-7d, LEM-IC50-7d 18.7°C	Survival/LC50 and Reproduction (ICp) of Ceriodaphnia dubia to Effluents 7 days, Growth/IC Green Algae (P. subcapitata) 72 hour, Survival/Growth/LC50/IC Fathead Minnow (P. promelas) 7 Days, Growth/IC Lemna Minor (Duckweed) 7 days	24-07-2024	17/07/2024 12:02	
YL2400933-002	SNP431-Sublet hal-240717	Water	LDPE carboy			24-07-2024	17/07/2024 12:02	
YL2400933-002	SNP431-Sublet hal-240717	Water	LDPE carboy			24-07-2024	17/07/2024 12:02	
YL2400933-002	SNP431-Sublet hal-240717	Water	LDPE carboy			24-07-2024	17/07/2024 12:02	
YL2400933-002	SNP431-Sublet hal-240717	Water	LDPE carboy			24-07-2024	17/07/2024 12:02	

END OF REPORT

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:
COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 689-8957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use "u" distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@rcaanc-cirnac.gc.ca
mikayla.donovan@wsp.com
g.d.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
[illegible]@slrconsulting.com

Send Original Signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife, NT X1A 0G5
Telephone: (867) 689-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

REQUESTED LAB SUITES (see reverse side for details)

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC

Facilty Code:

Project # 208.030049.00001

Quote #

√ = Preserved:	As required - Marked on bottle																						
√ = Field Filtered:	As required - Marked on bottle																						
√ = Standard TAT:	√	√	√	√	√	√	√	√	√	√	√												
√ = 1-Day Rush:																							

Sample ID	Sample Location	Sample Date (dd-mmm-YY)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP -Routine	GMRP -Nutrients	GMRP -Metals	GMRP -TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Radium-226	Toxicity - acute LC50 with D. Magna and Rainbow Trout	Toxicity - sub lethal LC50 with C. dubia, Fathead Minnow, L.							
SNP431-Acute-240717	SNP 43-1	17-Jul-24	12:02	Water		2 x 20 L	G	4										X								
SNP431-Sublethal-240717	SNP 43-1	17-Jul-24	12:02	Water		5 x 10 L	G	3											X							

Relinquished by (Sampler Signature/ Print): Keenan Kakfwi
Date/Time: 2024-July-17 13:05
Company: **SLR Consulting**

Received by (Name):
Received by (Signature)
Company: **ALS**

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 19.8
Samples Received in Good Condition? Yes / No (If no, provide details.)
On cooling media: Y / N

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401075**	Page	: 1 of 7
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 02-Aug-2024 09:00
PO	: YEL218	Date Analysis Commenced	: 06-Aug-2024
C-O-C number	: ----	Issue Date	: 12-Aug-2024 12:05
Sampler	: Keenan Kakfwi		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 4		
No. of samples analysed	: 4		

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
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Leon Yang	Analyst	Inorganics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Sam Silveira	Analyst	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
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
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*
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).*
RRV	*Reported result verified by repeat analysis.*
SFT	*Sample was filtered due to turbidity interference. Result reflects soluble analyte concentration.*

Analytical Results

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

				Client sample ID	TRCK-240801	SNP4323-240801	SNP435-240801	DUP-SNP435-240801	----
				Client sampling date / time	01-Aug-2024 15:08	01-Aug-2024 15:35	01-Aug-2024 15:48	01-Aug-2024 15:48	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401075-001	YL2401075-002	YL2401075-003	YL2401075-004	--------
					Result	Result	Result	Result	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	141	38.5	38.2	37.8	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	3.8	<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	1.9	<1.0	<1.0	<1.0	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	145	38.5	38.2	37.8	----
Conductivity	----	E100/VA	1.0	µS/cm	763	3260	3260	3260	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	318	1420	1390	1420	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	304	1480	1410	1480	----
pH	----	E108/VA	0.10	pH units	8.37	7.77	7.76	7.75	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	574	2790	2810	2700	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	1.3	<1.0	<1.0	2.0	----
Turbidity	----	E121/VA	0.10	NTU	1.07	1.39	1.23	1.24	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0278	0.0121	0.0124	0.0120	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	0.666	5.74	5.78	5.69	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	84.3	479	477	475	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.102	<0.400 DLDS	<0.400 DLDS	<0.400 DLDS	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0250	<0.100 DLDS	<0.100 DLDS	<0.100 DLDS	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0255	<0.102	<0.102	<0.102	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0050	<0.0200 DLDS	<0.0200 DLDS	<0.0200 DLDS	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0357	0.0159	0.0155	0.0152	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	2.56 SFT	0.81 SFT	0.77 SFT	0.77 SFT	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	129	1180	1170	1170	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	27.4	8.12 RRV	9.43	7.89	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	27.3	6.98 RRV	7.99	7.90	----
Ion Balance									

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240801	SNP4323-240801	SNP435-240801	DUP-SNP435-240801	----
				Client sampling date / time	01-Aug-2024 15:08	01-Aug-2024 15:35	01-Aug-2024 15:48	01-Aug-2024 15:48	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401075-001	YL2401075-002	YL2401075-003	YL2401075-004	--------
					Result	Result	Result	Result	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	7.98	38.9	38.6	38.6	----
Cation sum	----	EC101/VA	0.10	meq/L	8.14	37.0	36.4	37.0	----
Ion balance (APHA)	----	EC101/VA	0.01	%	0.99	-2.50	-2.93	-2.12	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0430	0.0220	0.0131	0.0141	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00425	0.111	0.107	0.107	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.124	0.188	0.171	0.179	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0377	0.0502	0.0477	0.0495	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.027	0.315	0.305	0.323	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	0.0000335	0.0000393	0.0000357	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	62.3	429	408	427	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	0.000187	0.000172	0.000194	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00014	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00263	0.00245	0.00230	0.00241	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	0.00466	0.00440	0.00464	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.076	0.242	0.231	0.239	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	0.000142	0.000137	0.000144	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0140	0.0332	0.0323	0.0345	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	36.0	99.5	95.7	100	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0205	0.0596	0.0540	0.0562	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.000606	0.0110	0.0105	0.0108	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00075	0.00603	0.00579	0.00606	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.100 DLA	<0.100 DLA	<0.100 DLA	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	5.04	13.1	11.7	12.5	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00267	0.0115	0.0112	0.0113	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000085	0.000321	0.000226	0.000208	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240801	SNP4323-240801	SNP435-240801	DUP-SNP435-240801	----
				Client sampling date / time	01-Aug-2024 15:08	01-Aug-2024 15:35	01-Aug-2024 15:48	01-Aug-2024 15:48	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401075-001	YL2401075-002	YL2401075-003	YL2401075-004	--------
					Result	Result	Result	Result	----
Total Metals									
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	1.40	0.45	0.41	0.41	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	0.000022	0.000022	<0.000020 DLA	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	36.4	187	179	186	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.328	3.97	3.80	3.87	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	49.8	482	469	473	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	0.00046	0.00042	<0.00040 DLA	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00142	<0.00090 DLM	<0.00060 DLA	<0.00060 DLA	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000992	0.00148	0.00138	0.00144	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00052	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	<0.0060 DLA	<0.0060 DLA	<0.0060 DLA	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0076	0.0036	0.0031	0.0034	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00432	0.111	0.109	0.112	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.123	0.146	0.141	0.139	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0388	0.0483	0.0492	0.0502	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.024	0.283	0.272	0.284	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	0.0000225	0.0000311	0.0000300	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	59.8	391	380	386	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	0.000184	0.000178	0.000181	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00260	0.00241	0.00239	0.00234	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00026	0.00398	0.00409	0.00410	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240801	SNP4323-240801	SNP435-240801	DUP-SNP435-240801	----
				Client sampling date / time	01-Aug-2024 15:08	01-Aug-2024 15:35	01-Aug-2024 15:48	01-Aug-2024 15:48	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401075-001	YL2401075-002	YL2401075-003	YL2401075-004	--------
					Result	Result	Result	Result	----
Dissolved Metals									
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.029	0.076	0.090	0.080	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0129	0.0314	0.0304	0.0310	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	40.9	109	108	110	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.0143	0.0557	0.0540	0.0530	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.000603	0.0113	0.0113	0.0112	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00076	0.00608	0.00605	0.00603	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.100 DLA	<0.100 DLA	<0.100 DLA	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	5.01	12.8	12.8	13.1	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00253	0.0116	0.0115	0.0119	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000064	0.000215	0.000221	0.000249	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	1.27	0.387	0.370	0.360	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	38.3	189	190	193	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.341	3.87	3.91	4.02	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	48.0	443	441	447	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	0.00031	<0.00060 DLA	<0.00060 DLA	<0.00060 DLA	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.000987	0.00144	0.00147	0.00143	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	0.0033	0.0064	0.0039	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	----
Volatile Organic Compounds [Fuels]									

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240801	SNP4323-240801	SNP435-240801	DUP-SNP435-240801	----
				Client sampling date / time	01-Aug-2024 15:08	01-Aug-2024 15:35	01-Aug-2024 15:48	01-Aug-2024 15:48	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401075-001	YL2401075-002	YL2401075-003	YL2401075-004	--------
					Result	Result	Result	Result	----
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Styrene	100-42-5	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Toluene	108-88-3	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	----	----	<0.00040	<0.00040	----
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	----	----	<0.00030	<0.00030	----
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	----	----	<0.10	<0.10	----
F2 (C10-C16)	----	E601/VA	0.10	mg/L	----	----	<0.10	<0.10	----
F3 (C16-C34)	----	E601/VA	0.25	mg/L	----	----	<0.25	<0.25	----
F4 (C34-C50)	----	E601/VA	0.25	mg/L	----	----	<0.25	<0.25	----
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	----	----	<0.38	<0.38	----
F1-BTEX	----	EC580/VA	0.100	mg/L	----	----	<0.100	<0.100	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	----	88.2	93.4	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	----	97.0	110	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	----	92.0	92.8	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	----	99.8	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401075**	Page	: 1 of 22
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 02-Aug-2024 09:00
PO	: YEL218	Issue Date	: 12-Aug-2024 12:05
C-O-C number	: ----		
Sampler	: Keenan Kakfwi		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 4		
No. of samples analysed	: 4		

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) DUP-SNP435-240801	E298	01-Aug-2024	07-Aug-2024	28 days	5 days	✓	08-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP435-240801	E298	01-Aug-2024	07-Aug-2024	28 days	5 days	✓	08-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4323-240801	E298	01-Aug-2024	07-Aug-2024	28 days	6 days	✓	08-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TRCK-240801	E298	01-Aug-2024	07-Aug-2024	28 days	6 days	✓	08-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE DUP-SNP435-240801	E235.Br-L	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4323-240801	E235.Br-L	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP435-240801	E235.Br-L	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-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
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE TRCK-240801	E235.Br-L	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP-SNP435-240801	E235.Cl	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4323-240801	E235.Cl	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP435-240801	E235.Cl	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TRCK-240801	E235.Cl	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-SNP435-240801	E235.F	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4323-240801	E235.F	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP435-240801	E235.F	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TRCK-240801	E235.F	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE DUP-SNP435-240801	E235.NO3-L	01-Aug-2024	06-Aug-2024	3 days	4 days	✗ EHT	06-Aug-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4323-240801	E235.NO3-L	01-Aug-2024	06-Aug-2024	3 days	4 days	✗ EHT	06-Aug-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP435-240801	E235.NO3-L	01-Aug-2024	06-Aug-2024	3 days	4 days	✗ EHT	06-Aug-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE TRCK-240801	E235.NO3-L	01-Aug-2024	06-Aug-2024	3 days	4 days	✗ EHT	06-Aug-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE DUP-SNP435-240801	E235.NO2-L	01-Aug-2024	06-Aug-2024	3 days	4 days	✗ EHT	06-Aug-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4323-240801	E235.NO2-L	01-Aug-2024	06-Aug-2024	3 days	4 days	✗ EHT	06-Aug-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP435-240801	E235.NO2-L	01-Aug-2024	06-Aug-2024	3 days	4 days	✗ EHT	06-Aug-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE TRCK-240801	E235.NO2-L	01-Aug-2024	06-Aug-2024	3 days	4 days	✗ EHT	06-Aug-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE DUP-SNP435-240801	E392	01-Aug-2024	----	----	----		09-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4323-240801	E392	01-Aug-2024	----	----	----		09-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP435-240801	E392	01-Aug-2024	----	----	----		09-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TRCK-240801	E392	01-Aug-2024	----	----	----		09-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE DUP-SNP435-240801	E235.SO4	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4323-240801	E235.SO4	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP435-240801	E235.SO4	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TRCK-240801	E235.SO4	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) DUP-SNP435-240801	E372-U	01-Aug-2024	07-Aug-2024	28 days	5 days	✓	09-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP435-240801	E372-U	01-Aug-2024	07-Aug-2024	28 days	5 days	✓	09-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: 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) SNP4323-240801	E372-U	01-Aug-2024	07-Aug-2024	28 days	6 days	✓	09-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) TRCK-240801	E372-U	01-Aug-2024	07-Aug-2024	28 days	6 days	✓	09-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) DUP-SNP435-240801	E421.Cr-L	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	07-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4323-240801	E421.Cr-L	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	07-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP435-240801	E421.Cr-L	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	07-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TRCK-240801	E421.Cr-L	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	07-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-SNP435-240801	E509	01-Aug-2024	10-Aug-2024	28 days	8 days	✓	10-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4323-240801	E509	01-Aug-2024	10-Aug-2024	28 days	8 days	✓	10-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP435-240801	E509	01-Aug-2024	10-Aug-2024	28 days	8 days	✓	10-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
TRCK-240801	E509	01-Aug-2024	10-Aug-2024	28 days	8 days	✓	10-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
DUP-SNP435-240801	E421	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	08-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SNP4323-240801	E421	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	08-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SNP435-240801	E421	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	08-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
TRCK-240801	E421	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	08-Aug-2024	180 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
DUP-SNP435-240801	E601	01-Aug-2024	08-Aug-2024	14 days	7 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
SNP435-240801	E601	01-Aug-2024	08-Aug-2024	14 days	7 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
DUP-SNP435-240801	E581.VH+F1	01-Aug-2024	07-Aug-2024	14 days	6 days	✓	08-Aug-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
SNP435-240801	E581.VH+F1	01-Aug-2024	07-Aug-2024	14 days	6 days	✓	08-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
DUP-SNP435-240801	E358-L	01-Aug-2024	07-Aug-2024	28 days	5 days	✓	07-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SNP435-240801	E358-L	01-Aug-2024	07-Aug-2024	28 days	5 days	✓	07-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SNP4323-240801	E358-L	01-Aug-2024	07-Aug-2024	28 days	6 days	✓	07-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
TRCK-240801	E358-L	01-Aug-2024	07-Aug-2024	28 days	6 days	✓	07-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
DUP-SNP435-240801	E355-L	01-Aug-2024	07-Aug-2024	28 days	5 days	✓	07-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP435-240801	E355-L	01-Aug-2024	07-Aug-2024	28 days	5 days	✓	07-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4323-240801	E355-L	01-Aug-2024	07-Aug-2024	28 days	6 days	✓	07-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
TRCK-240801	E355-L	01-Aug-2024	07-Aug-2024	28 days	6 days	✓	07-Aug-2024	28 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
DUP-SNP435-240801	E290	01-Aug-2024	06-Aug-2024	14 days	5 days	✓	06-Aug-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 SNP4323-240801	E290	01-Aug-2024	06-Aug-2024	14 days	5 days	✓	06-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP435-240801	E290	01-Aug-2024	06-Aug-2024	14 days	5 days	✓	06-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TRCK-240801	E290	01-Aug-2024	06-Aug-2024	14 days	5 days	✓	06-Aug-2024	14 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-SNP435-240801	E100	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4323-240801	E100	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP435-240801	E100	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE TRCK-240801	E100	01-Aug-2024	06-Aug-2024	28 days	5 days	✓	06-Aug-2024	28 days	5 days	✓
Physical Tests : pH by Meter										
HDPE DUP-SNP435-240801	E108	01-Aug-2024	06-Aug-2024	0.25 hrs	119 hrs	✗ EHTR-FM	06-Aug-2024	0.25 hrs	125 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4323-240801	E108	01-Aug-2024	06-Aug-2024	0.25 hrs	119 hrs	✗ EHTR-FM	06-Aug-2024	0.25 hrs	125 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 SNP435-240801	E108	01-Aug-2024	06-Aug-2024	0.25 hrs	119 hrs	✖ EHTR-FM	06-Aug-2024	0.25 hrs	125 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE TRCK-240801	E108	01-Aug-2024	06-Aug-2024	0.25 hrs	119 hrs	✖ EHTR-FM	06-Aug-2024	0.25 hrs	125 hrs	✖ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE DUP-SNP435-240801	E162-L	01-Aug-2024	----	----	----		07-Aug-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4323-240801	E162-L	01-Aug-2024	----	----	----		07-Aug-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP435-240801	E162-L	01-Aug-2024	----	----	----		07-Aug-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE TRCK-240801	E162-L	01-Aug-2024	----	----	----		07-Aug-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] DUP-SNP435-240801	E160-L	01-Aug-2024	----	----	----		07-Aug-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4323-240801	E160-L	01-Aug-2024	----	----	----		07-Aug-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP435-240801	E160-L	01-Aug-2024	----	----	----		07-Aug-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
TRCK-240801	E160-L	01-Aug-2024	----	----	----		07-Aug-2024	7 days	6 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
DUP-SNP435-240801	E121	01-Aug-2024	----	----	----		08-Aug-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
SNP4323-240801	E121	01-Aug-2024	----	----	----		08-Aug-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
SNP435-240801	E121	01-Aug-2024	----	----	----		08-Aug-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
TRCK-240801	E121	01-Aug-2024	----	----	----		08-Aug-2024	3 days	6 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved)										
DUP-SNP435-240801	E420.Cr-L	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	07-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved)										
SNP4323-240801	E420.Cr-L	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	07-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved)										
SNP435-240801	E420.Cr-L	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	07-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved)										
TRCK-240801	E420.Cr-L	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	07-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
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) DUP-SNP435-240801	E508	01-Aug-2024	08-Aug-2024	28 days	7 days	✓	08-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4323-240801	E508	01-Aug-2024	08-Aug-2024	28 days	7 days	✓	08-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP435-240801	E508	01-Aug-2024	08-Aug-2024	28 days	7 days	✓	08-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) TRCK-240801	E508	01-Aug-2024	08-Aug-2024	28 days	7 days	✓	08-Aug-2024	28 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) DUP-SNP435-240801	E420	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	08-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4323-240801	E420	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	08-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP435-240801	E420	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	08-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TRCK-240801	E420	01-Aug-2024	07-Aug-2024	180 days	6 days	✓	08-Aug-2024	180 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) DUP-SNP435-240801	E611A	01-Aug-2024	07-Aug-2024	14 days	6 days	✓	08-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
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
SNP435-240801	E611A	01-Aug-2024	07-Aug-2024	14 days	6 days	✓	08-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	1581184	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1581961	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1581191	1	4	25.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1581190	1	4	25.0	5.0	✓
Conductivity in Water	E100	1581185	1	9	11.1	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1581210	1	4	25.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1588467	1	13	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1581209	1	19	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1581962	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	1581189	1	4	25.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1581187	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1581186	1	9	11.1	5.0	✓
pH by Meter	E108	1581183	1	17	5.8	5.0	✓
Reactive Silica by Colourimetry	E392	1587157	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1581188	1	12	8.3	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1583016	1	14	7.1	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1581167	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1585739	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1581165	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1581963	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1581960	1	12	8.3	5.0	✓
Turbidity by Nephelometry	E121	1585063	1	19	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1581184	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1581961	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1581191	1	4	25.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1582047	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1581190	1	4	25.0	5.0	✓
Conductivity in Water	E100	1581185	1	9	11.1	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1581210	1	4	25.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1588467	1	13	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1581209	1	19	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1581962	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							
Fluoride in Water by IC	E235.F	1581189	1	4	25.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1581187	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1581186	1	9	11.1	5.0	✓
pH by Meter	E108	1581183	1	17	5.8	5.0	✓
Reactive Silica by Colourimetry	E392	1587157	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1581188	1	12	8.3	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1583016	1	14	7.1	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1581167	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1585739	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1581165	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1581963	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1581960	1	12	8.3	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1583023	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1585063	1	19	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1581184	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1581961	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1581191	1	4	25.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1582047	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1581190	1	4	25.0	5.0	✓
Conductivity in Water	E100	1581185	1	9	11.1	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1581210	1	4	25.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1588467	1	13	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1581209	1	19	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1581962	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	1581189	1	4	25.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1581187	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1581186	1	9	11.1	5.0	✓
Reactive Silica by Colourimetry	E392	1587157	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1581188	1	12	8.3	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1583016	1	14	7.1	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1581167	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1585739	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1581165	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1581963	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1581960	1	12	8.3	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1583023	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*
Method Blanks (MB) - Continued							
Turbidity by Nephelometry	E121	1585063	1	19	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1581961	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1581191	1	4	25.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1581190	1	4	25.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1581210	1	4	25.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1588467	1	13	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1581209	1	19	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1581962	1	18	5.5	5.0	✓
Fluoride in Water by IC	E235.F	1581189	1	4	25.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1581187	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1581186	1	9	11.1	5.0	✓
Reactive Silica by Colourimetry	E392	1587157	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1581188	1	12	8.3	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1581167	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1585739	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1581165	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1581963	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1581960	1	12	8.3	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	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.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
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.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
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.
Fluoride in Water by IC	E235.F 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
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.
Reactive Silica by Colourimetry	E392 ALS Environmental - Vancouver	Water	APHA 4500-SiO2 E (mod)	Silicate (molybdate-reactive silica) is determined by the molybdosilicate-heteropoly blue colourimetric method using a discrete analyzer. Method Limitation: Arsenic (5+) above 100 mg/L is a negative interference on this test
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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L 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.
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.
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L ALS Environmental - Vancouver	Water	APHA 3030 B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS
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
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then 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.
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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Vancouver	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
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).
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 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 for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Vancouver			
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401075**	Page	: 1 of 21
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 02-Aug-2024 09:00
PO	: YEL218	Date Analysis Commenced	: 06-Aug-2024
C-O-C number	: ----	Issue Date	: 12-Aug-2024 12:05
Sampler	: Keenan Kakfwi		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 4		
No. of samples analysed	: 4		

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
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Leon Yang	Analyst	Vancouver Inorganics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Sam Silveira	Analyst	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: 1581183)											
VA24B9016-003	Anonymous	pH	----	E108	0.10	pH units	8.07	8.05	0.248%	4%	----
Physical Tests (QC Lot: 1581184)											
VA24B9016-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	116	116	0.430%	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	116	116	0.430%	20%	----
Physical Tests (QC Lot: 1581185)											
VA24B9016-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	288	296	2.74%	10%	----
Physical Tests (QC Lot: 1583016)											
YL2401058-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	10.0	mg/L	83.7	86.0	2.3	Diff <2x LOR	----
Physical Tests (QC Lot: 1585063)											
VA24B9598-002	Anonymous	Turbidity	----	E121	0.10	NTU	<0.10	<0.10	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1581186)											
YL2401075-001	TRCK-240801	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: 1581187)											
YL2401075-001	TRCK-240801	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	<0.0250	<0.0250	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1581188)											
YL2401075-001	TRCK-240801	Sulfate (as SO4)	14808-79-8	E235.SO4	1.50	mg/L	129	128	0.505%	20%	----
Anions and Nutrients (QC Lot: 1581189)											
YL2401075-001	TRCK-240801	Fluoride	16984-48-8	E235.F	0.100	mg/L	0.102	0.101	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1581190)											
YL2401075-001	TRCK-240801	Chloride	16887-00-6	E235.Cl	2.50	mg/L	84.3	84.0	0.301%	20%	----
Anions and Nutrients (QC Lot: 1581191)											
YL2401075-001	TRCK-240801	Bromide	24959-67-9	E235.Br-L	0.250	mg/L	0.666	0.666	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1581960)											
FJ2402239-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0174	0.0162	0.0012	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1581961)											
FJ2402234-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0366	0.0368	0.0002	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: 1587157)											
VA24B9190-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	0.96	0.97	0.010	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1581962)											
FJ2402234-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	6.11	6.48	5.82%	20%	----
Organic / Inorganic Carbon (QC Lot: 1581963)											
FJ2402234-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	5.10	4.96	2.85%	20%	----
Total Metals (QC Lot: 1581165)											
YL2401051-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.150	0.154	2.77%	20%	----
		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	0.00038	0.00040	0.00001	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.185	0.190	2.97%	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	1.11	1.11	0.351%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.000256	0.000245	4.29%	20%	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	183	185	1.04%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000056	0.000059	0.000003	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	0.00492	0.00487	0.914%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00133	0.00135	0.00002	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.312	0.326	4.66%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000059	0.000061	0.000002	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0127	0.0135	6.26%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	44.0	43.1	1.93%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.592	0.598	0.907%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00410	0.00411	0.353%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.0180	0.0183	1.42%	20%	----
		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	29.9	29.7	0.634%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.0228	0.0236	3.31%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000212	0.000220	0.000008	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	4.68	4.74	1.08%	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	104	105	0.917%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	1.94	1.97	1.64%	20%	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1581165) - continued											
YL2401051-001	Anonymous	Sulfur, total	7704-34-9	E420	0.50	mg/L	39.9	40.8	2.12%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00029	0.00035	0.00006	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000107	0.000109	1.57%	20%	----
		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	0.00606	0.00728	18.3%	20%	----
		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	0.000791	0.000812	2.58%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	0.00050	0.000005	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0123	0.0122	0.00008	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00040	<0.00020	0.00020	Diff <2x LOR	----
Total Metals (QC Lot: 1581167)											
YL2401051-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00033	0.00046	0.00013	Diff <2x LOR	----
Total Metals (QC Lot: 1585739)											
VA24B9016-021	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	0.0000532	0.0000484	9.34%	20%	----
Dissolved Metals (QC Lot: 1581209)											
YL2401075-001	TRCK-240801	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0076	0.0079	0.0003	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00432	0.00431	0.211%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.123	0.123	0.268%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0388	0.0376	2.91%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.024	0.024	0.0001	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	59.8	59.4	0.763%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00260	0.00252	3.00%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00026	0.00025	0.00001	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.029	0.030	0.0002	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0129	0.0131	1.19%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	40.9	41.5	1.50%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0143	0.0146	1.73%	20%	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1581209) - continued											
YL2401075-001	TRCK-240801	Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000603	0.000600	0.405%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00076	0.00074	0.00002	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	5.01	5.15	2.77%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00253	0.00271	6.81%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000064	0.000053	0.000010	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	1.27	1.24	2.15%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	38.3	39.6	3.19%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.341	0.326	4.58%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	48.0	45.5	5.37%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	0.00031	<0.00030	0.00001	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000987	0.000994	0.720%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1581210)											
YL2401075-001	TRCK-240801	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1588467)											
VA24B5739-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1583064)											
VA24B8291-002	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	----
		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	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	1.21	1.25	0.04	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: 1583065)											

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*
Hydrocarbons (QC Lot: 1583065) - continued											
VA24B8835-002	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: 1581184)						
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: 1581185)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1583016)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1583023)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1585063)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1581186)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1581187)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1581188)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1581189)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1581190)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1581191)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1581960)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1581961)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1587157)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1581962)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1581962) - continued						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1581963)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1581165)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1581165) - continued						
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: 1581167)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1585739)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1581209)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1581209) - continued						
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1581210)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1588467)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1583064)						
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	----
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: 1582047)						
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: 1583065)						
F1 (C6-C10)	----	E581.VH+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: 1581183)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1581184)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	103	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1581185)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	101	90.0	110	----
Physical Tests (QCLot: 1583016)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	100	85.0	115	----
Physical Tests (QCLot: 1583023)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1585063)									
Turbidity	----	E121	0.1	NTU	200 NTU	98.0	85.0	115	----
Anions and Nutrients (QCLot: 1581186)									
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: 1581187)									
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: 1581188)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1581189)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1581190)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1581191)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1581960)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	90.3	80.0	120	----
Anions and Nutrients (QCLot: 1581961)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	111	85.0	115	----
Anions and Nutrients (QCLot: 1587157)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	98.0	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: 1581962)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	100	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1581963)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	95.5	80.0	120	----
Total Metals (QCLot: 1581165)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	101	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	101	80.0	120	----
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	101	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	103	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	100	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	100.0	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	95.4	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	97.8	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	97.8	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	100	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	112	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	97.8	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	99.9	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	95.5	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	96.5	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	102	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	109	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	110	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.6	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	103	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	105	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	102	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: 1581165) - continued									
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	97.4	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	95.6	80.0	120	----
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	102	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	97.3	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	93.5	80.0	120	----
Total Metals (QCLot: 1581167)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Total Metals (QCLot: 1585739)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	84.9	80.0	120	----
Dissolved Metals (QCLot: 1581209)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	100	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	94.2	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	105	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	94.0	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	100	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	86.6	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	98.0	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	92.8	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	95.0	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	99.6	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	98.0	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	91.6	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	99.7	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	94.0	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	99.9	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	94.6	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	99.6	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	103	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	102	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
Dissolved Metals (QCLot: 1581209) - continued									
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	96.1	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	102	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	91.6	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	107	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	99.8	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	103	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	90.7	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	100	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	99.0	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	94.7	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	93.8	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	99.6	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	94.1	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	94.3	80.0	120	----
Dissolved Metals (QCLot: 1581210)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	102	80.0	120	----
Volatile Organic Compounds (QCLot: 1583064)									
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	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	113	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	112	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	108	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	110	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	107	70.0	130	----
Hydrocarbons (QCLot: 1582047)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	107	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	111	70.0	130	----
Hydrocarbons (QCLot: 1583065)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	84.1	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier

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: 1581186)										
YL2401075-002	SNP4323-240801	Nitrite (as N)	14797-65-0	E235.NO2-L	9.95 mg/L	10 mg/L	99.5	75.0	125	----
Anions and Nutrients (QCLot: 1581187)										
YL2401075-002	SNP4323-240801	Nitrate (as N)	14797-55-8	E235.NO3-L	49.6 mg/L	50 mg/L	99.2	75.0	125	----
Anions and Nutrients (QCLot: 1581188)										
YL2401075-002	SNP4323-240801	Sulfate (as SO4)	14808-79-8	E235.SO4	1980 mg/L	2000 mg/L	99.0	75.0	125	----
Anions and Nutrients (QCLot: 1581189)										
YL2401075-002	SNP4323-240801	Fluoride	16984-48-8	E235.F	19.9 mg/L	20 mg/L	99.5	75.0	125	----
Anions and Nutrients (QCLot: 1581190)										
YL2401075-002	SNP4323-240801	Chloride	16887-00-6	E235.Cl	1990 mg/L	2000 mg/L	99.6	75.0	125	----
Anions and Nutrients (QCLot: 1581191)										
YL2401075-002	SNP4323-240801	Bromide	24959-67-9	E235.Br-L	10.2 mg/L	10 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1581960)										
FJ2402239-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1581961)										
FJ2402234-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.104 mg/L	0.1 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1587157)										
VA24B9190-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	9.58 mg/L	10 mg/L	95.8	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1581962)										
FJ2402234-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1581963)										
FJ2402234-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	4.61 mg/L	5 mg/L	92.2	70.0	130	----
Total Metals (QCLot: 1581165)										
YL2401078-004	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0180 mg/L	0.02 mg/L	90.2	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0197 mg/L	0.02 mg/L	98.6	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0388 mg/L	0.04 mg/L	96.9	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0104 mg/L	0.01 mg/L	104	70.0	130	----
		Boron, total	7440-42-8	E420	0.083 mg/L	0.1 mg/L	83.2	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00381 mg/L	0.004 mg/L	95.2	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00952 mg/L	0.01 mg/L	95.2	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0380 mg/L	0.04 mg/L	95.1	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: 1581165) - continued										
YL2401078-004	Anonymous	Cobalt, total	7440-48-4	E420	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		Copper, total	7440-50-8	E420	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	----
		Iron, total	7439-89-6	E420	1.91 mg/L	2 mg/L	95.6	70.0	130	----
		Lead, total	7439-92-1	E420	0.0194 mg/L	0.02 mg/L	97.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0981 mg/L	0.1 mg/L	98.1	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0191 mg/L	0.02 mg/L	95.5	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0177 mg/L	0.02 mg/L	88.6	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0374 mg/L	0.04 mg/L	93.6	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.04 mg/L	10 mg/L	90.4	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0187 mg/L	0.02 mg/L	93.4	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0409 mg/L	0.04 mg/L	102	70.0	130	----
		Silicon, total	7440-21-3	E420	9.37 mg/L	10 mg/L	93.7	70.0	130	----
		Silver, total	7440-22-4	E420	0.00377 mg/L	0.004 mg/L	94.3	70.0	130	----
		Sodium, total	7440-23-5	E420	1.78 mg/L	2 mg/L	89.0	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	94.9	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00374 mg/L	0.004 mg/L	93.6	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Tin, total	7440-31-5	E420	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0360 mg/L	0.04 mg/L	90.1	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00429 mg/L	0.004 mg/L	107	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0968 mg/L	0.1 mg/L	96.8	70.0	130	----
		Zinc, total	7440-66-6	E420	0.371 mg/L	0.4 mg/L	92.8	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: 1581167)										
YL2401078-004	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0380 mg/L	0.04 mg/L	95.1	70.0	130	----
Total Metals (QCLot: 1585739)										
VA24B9016-022	Anonymous	Mercury, total	7439-97-6	E508	0.0000850 mg/L	0 mg/L	85.0	70.0	130	----
Dissolved Metals (QCLot: 1581209)										
YL2401075-002	SNP4323-240801	Aluminum, dissolved	7429-90-5	E421	0.405 mg/L	0.4 mg/L	101	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	ND mg/L	----	ND	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	ND mg/L	----	ND	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0715 mg/L	0.08 mg/L	89.4	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0175 mg/L	0.02 mg/L	87.6	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00754 mg/L	0.008 mg/L	94.3	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0192 mg/L	0.02 mg/L	96.3	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
Dissolved Metals (QCLot: 1581209) - continued										
YL2401075-002	SNP4323-240801	Chromium, dissolved	7440-47-3	E421	0.0777 mg/L	0.08 mg/L	97.2	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0379 mg/L	0.04 mg/L	94.7	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0356 mg/L	0.04 mg/L	89.0	70.0	130	----
		Iron, dissolved	7439-89-6	E421	3.83 mg/L	4 mg/L	95.7	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0366 mg/L	0.04 mg/L	91.6	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.178 mg/L	0.2 mg/L	89.3	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0739 mg/L	0.08 mg/L	92.4	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	21.5 mg/L	20 mg/L	108	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0394 mg/L	0.04 mg/L	98.5	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0815 mg/L	0.08 mg/L	102	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	19.8 mg/L	20 mg/L	99.2	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00738 mg/L	0.008 mg/L	92.3	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0788 mg/L	0.08 mg/L	98.5	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00730 mg/L	0.008 mg/L	91.2	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0399 mg/L	0.04 mg/L	99.8	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0378 mg/L	0.04 mg/L	94.5	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0820 mg/L	0.08 mg/L	102	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0387 mg/L	0.04 mg/L	96.7	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00774 mg/L	0.008 mg/L	96.7	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.206 mg/L	0.2 mg/L	103	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.704 mg/L	0.8 mg/L	88.0	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0806 mg/L	0.08 mg/L	101	70.0	130	----
Dissolved Metals (QCLot: 1581210)										
YL2401075-002	SNP4323-240801	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0777 mg/L	0.08 mg/L	97.2	70.0	130	----
Dissolved Metals (QCLot: 1588467)										
VA24B5739-004	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000989 mg/L	0 mg/L	98.9	70.0	130	----
Volatile Organic Compounds (QCLot: 1583064)										
VA24B8291-002	Anonymous	Benzene	71-43-2	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Ethylbenzene	100-41-4	E611A	95.4 µg/L	100 µg/L	95.4	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	107 µg/L	100 µg/L	107	60.0	140	----
		Styrene	100-42-5	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Toluene	108-88-3	E611A	97.9 µg/L	100 µg/L	97.9	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	210 µg/L	200 µg/L	105	60.0	140	----
		Xylene, o-	95-47-6	E611A	98.1 µg/L	100 µg/L	98.1	60.0	140	----
Hydrocarbons (QCLot: 1583065)										

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
Hydrocarbons (QCLot: 1583065) - continued										
VA24B9264-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5470 µg/L	6310 µg/L	86.7	60.0	140	----

Environmental Division
Yellowknife
Work Order Reference
YL2401075

Telephone : +1 867 873 5593

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 689-8957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@rcaanc-cirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
kakfwi@slrconsulting.com

Send Original Signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife, NT
X1A 0G5
Telephone: (867) 689-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:	As required - Marked on bottle
√ = Field Filtered:	As required - Marked on bottle
√ = Standard TAT:	√ √ √ √ √ √ √
√ = 1-Day Rush:	

Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Total Ammonia	Sulphide	Radium-226
TRCK-240801	TR-CK	1-Aug-24	15:08	Water			G	8	X	X	X		X				
SNP4323-240801	SNP 43-23	1-Aug-24	15:35	Water			G	8	X	X	X		X				
SNP435-240801	SNP 43-5	1-Aug-24	15:48	Water			G	12	X	X	X	X	X				
DUP-SNP435-240801	SNP 43-5	1-Aug-24	15:48	Water			G	12	X	X	X	X	X				

Relinquished by (Sampler Signature/ Print): **Keenan Kakfwi** T.Kakfwi
Date/Time: 2024-August-02 9:00
Company: **SLR Consulting**

Received by (Name): Simon Arlooktoo
Received by (Signature)
Company: **ALS** AUG 02/24
Sample Receipt Temperature (deg. C): 3.9

SAMPLE CONDITION (lab use only)
Samples Received in Good Condition? Yes / No (If no, provide details.)
On cooling media Y / N

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401087**	Page	: 1 of 7
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 06-Aug-2024 09:06
PO	: YEL218	Date Analysis Commenced	: 08-Aug-2024
C-O-C number	: ----	Issue Date	: 15-Aug-2024 11:53
Sampler	: Keenan Kakfwi		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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
- 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*
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Juanita Martis	Account Manager Assistant	External Subcontracting, Yellowknife, Northwest Territories
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Sam Silveira	Analyst	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
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
CFU/100mL	colony forming units per hundred millilitres
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
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*
DLA	*Detection Limit adjusted for required dilution.*
DLDS	*Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.*

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321A-240803	----	----	----	----
				Client sampling date / time	03-Aug-2024 16:29	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401087-001	--------	--------	--------	--------
					Result	----	----	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	188	----	----	----	----
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	188	----	----	----	----
Conductivity	----	E100/VA	1.0	µS/cm	3180	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1290	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1470	----	----	----	----
pH	----	E108/VA	0.10	pH units	8.18	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	2500	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	----	----	----	----
Turbidity	----	E121/VA	0.10	NTU	0.83	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.768	----	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	6.03	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	473	----	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.400 DLDS	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.424	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.452	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0282	----	----	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	11.4	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	781	----	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	8.63	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	7.33	----	----	----	----
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	FC-MF/1Y	1.0	CFU/100mL	<1.0	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	SNP4321A-240803	----	----	----	----
					Client sampling date / time	03-Aug-2024 16:29	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401087-001	--------	--------	--------	--------
						Result	----	----	----	----
Ion Balance										
Anion sum	----	EC101/VA	0.10	meq/L		33.5	----	----	----	----
Cation sum	----	EC101/VA	0.10	meq/L		34.3	----	----	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%		1.18	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		<0.0600 DLA	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		0.690	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		24.3	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0498	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000400 DLA	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.00100 DLA	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.312	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.000397	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		408	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000693	----	----	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L		<0.00200 DLA	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.0100 DLA	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.0418	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		<0.0100 DLA	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.281	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.00383	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0350	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		109	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.556	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.0169	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.0474	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<1.00 DLA	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		11.5	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.0101	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.00100 DLA	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	SNP4321A-240803	----	----	----	----
					Client sampling date / time	03-Aug-2024 16:29	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401087-001	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		5.89	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000200 DLA	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		197	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		4.35	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		305	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00400 DLA	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000200 DLA	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00200 DLA	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00200 DLA	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00600 DLA	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00200 DLA	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.00538	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.0100 DLA	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0600 DLA	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00400 DLA	----	----	----	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L		<0.0200 DLA	----	----	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L		0.656	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L		22.8	----	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L		0.0496	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L		<0.00200 DLA	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L		<0.00100 DLA	----	----	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L		0.375	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L		0.000248	----	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		364	----	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L		0.000840	----	----	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L		<0.00200 DLA	----	----	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L		<0.0100 DLA	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L		0.0384	----	----	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L		<0.00400 DLA	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	SNP4321A-240803	----	----	----	----
					Client sampling date / time	03-Aug-2024 16:29	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401087-001	--------	--------	--------	--------
						Result	----	----	----	----
Dissolved Metals										
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L		<0.200 DLA	----	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L		0.00292	----	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L		0.0323	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		93.3	----	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L		0.514	----	----	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L		0.0172	----	----	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L		0.0419	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L		<1.00 DLA	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		11.9	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		0.00961	----	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L		<0.00100 DLA	----	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L		5.51	----	----	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L		<0.000200 DLA	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		185	----	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		4.30	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L		282	----	----	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L		<0.00400 DLA	----	----	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L		<0.000200 DLA	----	----	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L		<0.00200 DLA	----	----	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L		<0.00200 DLA	----	----	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L		<0.00600 DLA	----	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L		<0.00200 DLA	----	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L		0.00528	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L		<0.0100 DLA	----	----	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L		0.0508	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L		<0.00400 DLA	----	----	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	----	----	----	----
Volatile Organic Compounds [Fuels]										

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321A-240803	----	----	----	----
				Client sampling date / time	03-Aug-2024 16:29	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401087-001	--------	--------	--------	--------
					Result	----	----	----	----
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Styrene	100-42-5	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Toluene	108-88-3	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	<0.00040	----	----	----	----
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	<0.00030	----	----	----	----
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	<0.10	----	----	----	----
F2 (C10-C16)	----	E601/VA	0.10	mg/L	<0.10	----	----	----	----
F3 (C16-C34)	----	E601/VA	0.25	mg/L	<0.25	----	----	----	----
F4 (C34-C50)	----	E601/VA	0.25	mg/L	<0.25	----	----	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	<0.38	----	----	----	----
F1-BTEX	----	EC580/VA	0.100	mg/L	<0.100	----	----	----	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	88.5	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	86.5	----	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	96.8	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	102	----	----	----	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401087**	Page	: 1 of 15
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 06-Aug-2024 09:06
PO	: YEL218	Issue Date	: 15-Aug-2024 11:54
C-O-C number	: ----		
Sampler	: Keenan Kakfwi		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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
- Matrix Spike 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
Matrix Spike (MS) Recoveries								
Dissolved Metals	Anonymous	Anonymous	Silver, dissolved	7440-22-4	E421	67.0 % MES	70.0-130%	Recovery less than lower data quality objective

Result Qualifiers

Qualifier	*Description*
MES	*Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).*

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) SNP4321A-240803	E298	03-Aug-2024	08-Aug-2024	28 days	5 days	✓	09-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4321A-240803	E235.Br-L	03-Aug-2024	08-Aug-2024	28 days	5 days	✓	08-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4321A-240803	E235.Cl	03-Aug-2024	08-Aug-2024	28 days	5 days	✓	08-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4321A-240803	E235.F	03-Aug-2024	08-Aug-2024	28 days	5 days	✓	08-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4321A-240803	E235.NO3-L	03-Aug-2024	08-Aug-2024	3 days	5 days	✗ EHTL	08-Aug-2024	3 days	5 days	✗ EHTL
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4321A-240803	E235.NO2-L	03-Aug-2024	08-Aug-2024	3 days	5 days	✗ EHTL	08-Aug-2024	3 days	5 days	✗ EHTL
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4321A-240803	E392	03-Aug-2024	----	----	----		13-Aug-2024	28 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
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4321A-240803	E235.SO4	03-Aug-2024	08-Aug-2024	28 days	5 days	✓	08-Aug-2024	28 days	5 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4321A-240803	E421.Cr-L	03-Aug-2024	12-Aug-2024	180 days	9 days	✓	12-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4321A-240803	E509	03-Aug-2024	09-Aug-2024	28 days	6 days	✓	09-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4321A-240803	E421	03-Aug-2024	12-Aug-2024	180 days	9 days	✓	12-Aug-2024	180 days	9 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP4321A-240803	E601	03-Aug-2024	13-Aug-2024	14 days	10 days	✓	14-Aug-2024	40 days	1 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP4321A-240803	E581.VH+F1	03-Aug-2024	11-Aug-2024	14 days	8 days	✓	12-Aug-2024	14 days	9 days	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) SNP4321A-240803	FC-MF	03-Aug-2024	----	----	----		09-Aug-2024	30 hrs	145 hrs	✗ EHTR
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4321A-240803	E358-L	03-Aug-2024	08-Aug-2024	28 days	5 days	✓	09-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4321A-240803	E355-L	03-Aug-2024	08-Aug-2024	28 days	5 days	✓	09-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
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4321A-240803	E290	03-Aug-2024	08-Aug-2024	14 days	5 days	✓	09-Aug-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4321A-240803	E100	03-Aug-2024	08-Aug-2024	28 days	5 days	✓	09-Aug-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE SNP4321A-240803	E108	03-Aug-2024	08-Aug-2024	0.25 hrs	124 hrs	✗ EHTR-FM	09-Aug-2024	0.25 hrs	134 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4321A-240803	E162-L	03-Aug-2024	----	----	----		10-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4321A-240803	E160-L	03-Aug-2024	----	----	----		10-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4321A-240803	E121	03-Aug-2024	----	----	----		12-Aug-2024	3 days	9 days	✗ EHTL
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4321A-240803	E420.Cr-L	03-Aug-2024	10-Aug-2024	180 days	7 days	✓	11-Aug-2024	180 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4321A-240803	E508	03-Aug-2024	09-Aug-2024	28 days	6 days	✓	09-Aug-2024	28 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4321A-240803	E420	03-Aug-2024	10-Aug-2024	180 days	7 days	✓	12-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
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
SNP4321A-240803	E611A	03-Aug-2024	11-Aug-2024	14 days	8 days	✓	12-Aug-2024	14 days	9 days	✓

Legend & Qualifier Definitions

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

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

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	1586151	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1586144	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1586158	1	9	11.1	5.0	✓
BTEX by Headspace GC-MS	E611A	1589631	1	10	10.0	5.0	✓
Chloride in Water by IC	E235.Cl	1586153	1	13	7.6	5.0	✓
Conductivity in Water	E100	1586150	1	17	5.8	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1587113	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1588308	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1587112	1	17	5.8	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1586142	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1586156	1	11	9.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1586154	1	12	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1586155	1	19	5.2	5.0	✓
pH by Meter	E108	1586149	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1592917	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1586152	1	13	7.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1588728	1	1	100.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1586480	1	4	25.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1587131	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1586479	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1586143	1	16	6.2	5.0	✓
Turbidity by Nephelometry	E121	1591903	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1589630	1	10	10.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1586151	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1586144	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1586158	1	9	11.1	5.0	✓
BTEX by Headspace GC-MS	E611A	1589631	1	10	10.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1592125	1	9	11.1	5.0	✓
Chloride in Water by IC	E235.Cl	1586153	1	13	7.6	5.0	✓
Conductivity in Water	E100	1586150	1	17	5.8	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1587113	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1588308	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1587112	1	17	5.8	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1586142	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1586156	1	11	9.0	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							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1586154	1	12	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1586155	1	19	5.2	5.0	✓
pH by Meter	E108	1586149	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1592917	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1586152	1	13	7.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1588728	1	1	100.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1586480	1	4	25.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1587131	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1586479	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1586143	1	16	6.2	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1588677	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1591903	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1589630	1	10	10.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1586151	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1586144	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1586158	1	9	11.1	5.0	✓
BTEX by Headspace GC-MS	E611A	1589631	1	10	10.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1592125	1	9	11.1	5.0	✓
Chloride in Water by IC	E235.Cl	1586153	1	13	7.6	5.0	✓
Conductivity in Water	E100	1586150	1	17	5.8	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1587113	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1588308	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1587112	1	17	5.8	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1586142	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1586156	1	11	9.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1586154	1	12	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1586155	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1592917	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1586152	1	13	7.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1588728	1	1	100.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1586480	1	4	25.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1587131	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1586479	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1586143	1	16	6.2	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1588677	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1591903	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1589630	1	10	10.0	5.0	✓
Matrix Spikes (MS)							

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*
Matrix Spikes (MS) - Continued							
Ammonia by Fluorescence	E298	1586144	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1586158	1	9	11.1	5.0	✓
BTEX by Headspace GC-MS	E611A	1589631	1	10	10.0	5.0	✓
Chloride in Water by IC	E235.Cl	1586153	1	13	7.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1587113	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1588308	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1587112	1	17	5.8	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1586142	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1586156	1	11	9.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1586154	1	12	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1586155	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1592917	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1586152	1	13	7.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1586480	1	4	25.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1587131	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1586479	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1586143	1	16	6.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1589630	1	10	10.0	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.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
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.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
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.
Fluoride in Water by IC	E235.F 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and 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 DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Reactive Silica by Colourimetry	E392 ALS Environmental - Vancouver	Water	APHA 4500-SiO_2 E (mod)	Silicate (molybdate-reactive silica) is determined by the molybdosilicate-heteropoly blue colourimetric method using a discrete analyzer. Method Limitation: Arsenic (5+) above 100 mg/L is a negative interference on this test
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 Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L ALS Environmental - Vancouver	Water	APHA 3030 B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS
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
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then 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.
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 $CaCO_3$), 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Vancouver	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
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).
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.
Fecal Coliforms in Water by MF	FC-MF Taiga Environmental Laboratory - 4601 - 52nd Avenue P.O. BOX 1500 Yellowknife Northwest Territories Canada X1A 2R3	Water	APHA 9222D	See attached report.

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 for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401087**	Page	: 1 of 19
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 06-Aug-2024 09:06
PO	: YEL218	Date Analysis Commenced	: 08-Aug-2024
C-O-C number	: ----	Issue Date	: 15-Aug-2024 11:53
Sampler	: Keenan Kakfwi		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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*
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Juanita Martis	Account Manager Assistant	Taiga Environmental Laboratory External Subcontracting, Yellowknife, Northwest Territories
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia
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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: 1586149)											
KS2403066-001	Anonymous	pH	----	E108	0.10	pH units	8.80	8.80	0.00%	4%	----
Physical Tests (QC Lot: 1586150)											
KS2403066-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	964	964	0.00%	10%	----
Physical Tests (QC Lot: 1586151)											
KS2403066-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	400	400	0.0758%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	39.6	39.4	0.512%	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	19.8	19.7	0.512%	20%	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	439	439	0.0230%	20%	----
Physical Tests (QC Lot: 1588728)											
YL2401087-001	SNP4321A-240803	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	2500	2530	0.894%	20%	----
Physical Tests (QC Lot: 1591903)											
FJ2402285-001	Anonymous	Turbidity	----	E121	0.10	NTU	1.66	1.72	3.55%	15%	----
Anions and Nutrients (QC Lot: 1586144)											
VA24B9522-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0120	0.0126	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1586152)											
VA24B9608-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	70.5	70.8	0.365%	20%	----
Anions and Nutrients (QC Lot: 1586153)											
VA24B9608-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1586154)											
VA24B9608-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0640	0.0644	0.514%	20%	----
Anions and Nutrients (QC Lot: 1586155)											
VA24B9608-001	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: 1586156)											
VA24B9608-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.100	0.102	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1586158)											
VA24B9608-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1592917)											
VA24C0043-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	5.06	5.06	0.0223%	20%	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Organic / Inorganic Carbon (QC Lot: 1586142)											
VA24B9522-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	2.02	1.96	0.05	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1586143)											
VA24B9522-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	2.37	2.13	0.24	Diff <2x LOR	----
Total Metals (QC Lot: 1586479)											
YL2401089-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0120	0.0116	0.0004	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00015	0.00015	0.000002	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00045	0.00044	0.00002	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0975	0.0900	7.96%	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	0.648	0.644	0.722%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000200	mg/L	<0.0000150	<0.0000200	0.0000050	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	276	275	0.228%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000301	0.000300	0.476%	20%	----
		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	0.00123	0.00120	2.06%	20%	----
		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	0.123	0.114	6.87%	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	0.0921	0.0917	0.446%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	109	107	1.85%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.152	0.149	2.34%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0626	0.0616	1.67%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00817	0.00808	1.08%	20%	----
		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	30.7	30.3	1.43%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.0356	0.0348	2.24%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000183	0.000187	0.000004	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	5.96	5.50	8.03%	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	141	137	2.99%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	3.16	3.20	1.37%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	127	116	8.84%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00050	0.00054	0.00004	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1586479) - continued											
YL2401089-001	Anonymous	Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000028	0.000027	0.000001	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	0.00083	0.00081	0.00002	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.0509	0.0519	1.93%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00106	0.00104	0.00002	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	0.00026	0.00006	Diff <2x LOR	----
Total Metals (QC Lot: 1586480)											
YL2401089-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Total Metals (QC Lot: 1587131)											
FJ2402290-002	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	0.0000050	0.00000004	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1587112)											
VA24B9506-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.0164	0.0165	0.444%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00065	0.00065	0.000002	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0293	0.0299	2.18%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.374	0.371	0.961%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000100	mg/L	<0.0000100	<0.0000100	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	72.0	73.9	2.58%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.00529	0.00534	0.784%	20%	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00106	0.00105	1.21%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00035	0.00034	0.000005	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.314	0.319	1.62%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	5.68	5.69	0.145%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0545	0.0547	0.354%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.0306	0.0309	1.14%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00109	0.00106	0.00003	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1587112) - continued											
VA24B9506-001	Anonymous	Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	61.0	61.4	0.650%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.0840	0.0848	0.941%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.00315	0.00342	8.21%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	3.38	3.40	0.342%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	158	158	0.0131%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	1.23	1.25	1.88%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	164	165	0.231%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	0.000134	0.000138	2.71%	20%	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	0.00092	0.00092	0.000002	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000063	0.000063	0.0000004	Diff <2x LOR	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1587113)											
VA24B9506-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00010	<0.00010	0.000005	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1588308)											
FJ2402234-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1589631)											
VA24B7216-001	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	----
		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	<0.50	<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	0.67	0.67	0.004	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1589630)											
VA24B7216-001	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: 1586150)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1586151)						
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: 1588677)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1588728)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1591903)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1586144)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1586152)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1586153)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1586154)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1586155)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1586156)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1586158)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1592917)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1586142)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1586143)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1586479)						
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: 1586479) - 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: 1586480)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1587131)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1587112)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1587112) - continued						
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1587113)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1588308)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1589631)						
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	----
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: 1589630)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1592125)						
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: 1586149)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1586150)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	98.8	90.0	110	----
Physical Tests (QCLot: 1586151)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	106	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	105	85.0	115	----
Physical Tests (QCLot: 1588677)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	109	85.0	115	----
Physical Tests (QCLot: 1588728)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	101	85.0	115	----
Physical Tests (QCLot: 1591903)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Anions and Nutrients (QCLot: 1586144)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1586152)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1586153)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1586154)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100.0	90.0	110	----
Anions and Nutrients (QCLot: 1586155)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	97.9	90.0	110	----
Anions and Nutrients (QCLot: 1586156)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	98.4	90.0	110	----
Anions and Nutrients (QCLot: 1586158)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1592917)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	97.6	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1586142)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	96.9	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
Organic / Inorganic Carbon (QCLot: 1586143)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Total Metals (QCLot: 1586479)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	104	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	106	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	95.9	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	101	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	86.5	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	101	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.4	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	93.3	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	102	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	93.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.9	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	101	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	112	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	95.6	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	108	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	99.3	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	98.1	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	96.6	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	103	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	88.1	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	107	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	96.4	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	102	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	97.7	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	98.5	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	94.2	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: 1586479) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.6	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.2	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	95.7	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	98.1	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	94.9	80.0	120	----
Total Metals (QCLot: 1586480)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Total Metals (QCLot: 1587131)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	99.8	80.0	120	----
Dissolved Metals (QCLot: 1587112)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	96.4	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	96.7	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	99.7	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	99.1	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	91.8	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	99.7	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	91.3	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	98.6	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	95.4	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	97.8	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	96.2	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	94.3	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	95.0	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	94.2	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	96.4	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	96.8	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	91.1	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	94.8	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	96.8	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	93.6	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	113	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	99.3	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	92.6	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	96.4	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
Dissolved Metals (QCLot: 1587112) - continued									
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	104	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	91.0	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	95.3	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	96.2	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	100	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	100.0	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	98.3	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	91.1	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	96.8	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	91.9	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	95.4	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	96.9	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	95.2	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	93.2	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	89.8	80.0	120	----
Dissolved Metals (QCLot: 1587113)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	96.2	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	101	80.0	120	----
Volatile Organic Compounds (QCLot: 1589631)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	110	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	96.6	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	114	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	107	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	99.8	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	102	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	98.4	70.0	130	----
Hydrocarbons (QCLot: 1589630)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	80.5	70.0	130	----
Hydrocarbons (QCLot: 1592125)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	124	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	120	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	127	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: 1586144)										
VA24B9523-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.102 mg/L	0.1 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1586152)										
VA24B9608-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	97.0 mg/L	100 mg/L	97.0	75.0	125	----
Anions and Nutrients (QCLot: 1586153)										
VA24B9608-002	Anonymous	Chloride	16887-00-6	E235.Cl	100 mg/L	100 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1586154)										
VA24B9608-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.49 mg/L	2.5 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1586155)										
VA24B9608-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.472 mg/L	0.5 mg/L	94.4	75.0	125	----
Anions and Nutrients (QCLot: 1586156)										
VA24B9608-002	Anonymous	Fluoride	16984-48-8	E235.F	0.984 mg/L	1 mg/L	98.4	75.0	125	----
Anions and Nutrients (QCLot: 1586158)										
VA24B9608-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.499 mg/L	0.5 mg/L	99.7	75.0	125	----
Anions and Nutrients (QCLot: 1592917)										
VA24C0043-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	9.72 mg/L	10 mg/L	97.2	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1586142)										
VA24B9523-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.57 mg/L	5 mg/L	111	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1586143)										
VA24B9523-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	6.05 mg/L	5 mg/L	121	70.0	130	----
Total Metals (QCLot: 1586479)										
YL2401092-001	Anonymous	Aluminum, total	7429-90-5	E420	0.376 mg/L	0.4 mg/L	93.9	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0378 mg/L	0.04 mg/L	94.6	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0408 mg/L	0.04 mg/L	102	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0801 mg/L	0.08 mg/L	100	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0166 mg/L	0.02 mg/L	83.2	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00741 mg/L	0.008 mg/L	92.6	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0186 mg/L	0.02 mg/L	92.9	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0757 mg/L	0.08 mg/L	94.6	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0360 mg/L	0.04 mg/L	90.0	70.0	130	----
		Copper, total	7440-50-8	E420	0.0346 mg/L	0.04 mg/L	86.5	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: 1586479) - continued										
YL2401092-001	Anonymous	Iron, total	7439-89-6	E420	3.63 mg/L	4 mg/L	90.9	70.0	130	----
		Lead, total	7439-92-1	E420	0.0344 mg/L	0.04 mg/L	86.1	70.0	130	----
		Lithium, total	7439-93-2	E420	0.189 mg/L	0.2 mg/L	94.4	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	0.0383 mg/L	0.04 mg/L	95.9	70.0	130	----
		Nickel, total	7440-02-0	E420	ND mg/L	----	ND	70.0	130	----
		Phosphorus, total	7723-14-0	E420	20.0 mg/L	20 mg/L	100	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0364 mg/L	0.04 mg/L	91.0	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0760 mg/L	0.08 mg/L	95.0	70.0	130	----
		Silicon, total	7440-21-3	E420	17.9 mg/L	20 mg/L	89.5	70.0	130	----
		Silver, total	7440-22-4	E420	0.00696 mg/L	0.008 mg/L	87.0	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	0.0760 mg/L	0.08 mg/L	95.0	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00677 mg/L	0.008 mg/L	84.6	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0368 mg/L	0.04 mg/L	92.1	70.0	130	----
		Tin, total	7440-31-5	E420	0.0375 mg/L	0.04 mg/L	93.6	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0754 mg/L	0.08 mg/L	94.2	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0365 mg/L	0.04 mg/L	91.2	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.190 mg/L	0.2 mg/L	95.1	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	0.0774 mg/L	0.08 mg/L	96.8	70.0	130	----
Total Metals (QCLot: 1586480)										
YL2401092-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0757 mg/L	0.08 mg/L	94.6	70.0	130	----
Total Metals (QCLot: 1587131)										
KS2403046-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000931 mg/L	0 mg/L	93.1	70.0	130	----
Dissolved Metals (QCLot: 1587112)										
VA24B9506-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.200 mg/L	0.2 mg/L	100	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	ND mg/L	----	ND	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	ND mg/L	----	ND	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0353 mg/L	0.04 mg/L	88.2	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00852 mg/L	0.01 mg/L	85.2	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00379 mg/L	0.004 mg/L	94.7	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0104 mg/L	0.01 mg/L	104	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0376 mg/L	0.04 mg/L	94.0	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0185 mg/L	0.02 mg/L	92.5	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
Dissolved Metals (QCLot: 1587112) - continued										
VA24B9506-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0177 mg/L	0.02 mg/L	88.4	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.80 mg/L	2 mg/L	90.0	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0179 mg/L	0.02 mg/L	89.4	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	ND mg/L	----	ND	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	ND mg/L	----	ND	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0360 mg/L	0.04 mg/L	90.0	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	11.0 mg/L	10 mg/L	110	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	ND mg/L	----	ND	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0398 mg/L	0.04 mg/L	99.4	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.28 mg/L	10 mg/L	92.8	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00268 mg/L	0.004 mg/L	67.0	70.0	130	MES
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0396 mg/L	0.04 mg/L	98.9	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00348 mg/L	0.004 mg/L	87.0	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0198 mg/L	0.02 mg/L	98.9	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0398 mg/L	0.04 mg/L	99.6	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	ND mg/L	----	ND	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00376 mg/L	0.004 mg/L	94.0	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0989 mg/L	0.1 mg/L	98.9	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.376 mg/L	0.4 mg/L	94.0	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0386 mg/L	0.04 mg/L	96.5	70.0	130	----
Dissolved Metals (QCLot: 1587113)										
VA24B9506-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0376 mg/L	0.04 mg/L	94.0	70.0	130	----
Dissolved Metals (QCLot: 1588308)										
FJ2402234-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000939 mg/L	0 mg/L	93.9	70.0	130	----
Volatile Organic Compounds (QCLot: 1589631)										
VA24B7216-001	Anonymous	Benzene	71-43-2	E611A	104 µg/L	100 µg/L	104	60.0	140	----
		Ethylbenzene	100-41-4	E611A	93.1 µg/L	100 µg/L	93.1	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	110 µg/L	100 µg/L	110	60.0	140	----
		Styrene	100-42-5	E611A	101 µg/L	100 µg/L	101	60.0	140	----
		Toluene	108-88-3	E611A	95.8 µg/L	100 µg/L	95.8	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	196 µg/L	200 µg/L	97.9	60.0	140	----
		Xylene, o-	95-47-6	E611A	94.1 µg/L	100 µg/L	94.1	60.0	140	----
Hydrocarbons (QCLot: 1589630)										
VA24B7217-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5080 µg/L	6310 µg/L	80.5	60.0	140	----

Qualifiers

Qualifier	Description
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).

Taiga Batch No.:
241173

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

- FINAL REPORT -

Prepared For: ALS Environmental

Address: 314 Old Airport Road
Unit 116
Yellowknife,NT
X1A 2R1

Attn: **Oliver Gregg** **Facsimile:**

Final report has been reviewed and approved by:

Shalene Manickum
Laboratory Manager

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Friday, August 9, 2024
Print Date: *Friday, August 9, 2024*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 241173

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401087-001 SNP4321A-240803 **Taiga Sample ID:** 001

Client Project:
Sample Type: Water
Received Date: 06-Aug-24
Sampling Date: 03-Aug-24
Sampling Time: 16:29
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	06-Aug-24	TEL017	3

ReportDate: Friday, August 9, 2024
Print Date: *Friday, August 9, 2024*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: **241173**

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **YL2401087-001 SNP4321A-240803** **Taiga Sample ID:** **001**

- DATA QUALIFERS -

Data Qualifier Descriptions:

3 *Holding time exceeded before receipt of sample*

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

ReportDate: Friday, August 9, 2024

Print Date: ***Friday, August 9, 2024***

Environmental Division
Yellowknife
Work Order Reference
YL2401087

Telephone : +1 867 873 5593

YL1087

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address:
1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone:
(867) 689-8957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:

LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:

Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@ec.aanc-cirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original Signed Lab Reports To:

COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife, NT
X1A 0G5
Telephone: (867) 689-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:

COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:	As required - Marked on bottle																					
√ = Field Filtered:	As required - Marked on bottle																					
√ = Standard TAT:	√	√	√	√	√	√	√															
√ = 1-Day Rush:																						

Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Radium-226
SNP4321A-240803	SNP 43-21A	3-Aug-24	16:29	Water		HIGH ARSENIC	G	13	X	X	X	X			X		

Relinquished by (Sampler Signature/ Print): **Keenan Kakfwi** — T. Kakfwi
Date/Time: 2024-August-06 — 9:06
Company: **SLR Consulting**

Received by (Name): Simon Arlooktoo
Received by (Signature)
Company: **ALS** — AUG 06/24

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 5.8
Samples Received in Good Condition? (Yes) No (If no, provide details.)
On cooling media

Environmental Division
Yellowknife
Work Order Reference
YL2401087

Telephone : +1 867 873 5593

YL1087

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 689-8957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@rt.aanc-cirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.maschoniuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original Signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife, NT
X1A 0G5
Telephone: (867) 689-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:	As required - Marked on bottle																			
√ = Field Filtered:	As required - Marked on bottle																			
√ = Standard TAT:	√	√	√	√	√	√	√													
√ = 1-Day Rush:																				

Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Radium-226
SNP4321A-240803	SNP 43-21A	3-Aug-24	16:29	Water		HIGH ARSENIC	G	13	X	X	X	X			X		

Relinquished by (Sampler Signature/ Print): T. Kakfwi
Keenan Kakfwi
Date/Time: 2024-August-06 9:06
Company: **SLR Consulting**

Received by (Name): Simon Arlooktoo
Received by (Signature)
Company: **ALS** AUG 06/24
Sample Receipt Temperature (deg. C): 5.8

SAMPLE CONDITION (lab use only)
Samples Received in Good Condition? (Yes) No (If no, provide details.)
On cooling media: 9 8.6

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401100**	Page	: 1 of 2
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 06-Aug-2024 12:25
PO	: YEL218	Date Analysis Commenced	: 29-Aug-2024
C-O-C number	: ----	Issue Date	: 29-Aug-2024 14:39
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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*
Oliver Gregg	Cleint Services Supervisor	External Subcontracting, 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

<: 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**)				*Client sample ID*	**SNP431-Acute-240806**	----	----	----	----
				Client sampling date / time	06-Aug-2024 00:00	----	----	----	----
Analyte	*CAS Number*	*Method/Lab*	*LOR*	*Unit*	**YL2401100-001**	--------	--------	--------	--------
					Result	----	----	----	----
Bioassays									
Daphnia magna LC50	----	DAP-LC50-48/2F	-	-	See attached	----	----	----	----
Trout bioassay LC50	----	TRT-LC50-96/2F	-	-	See attached	----	----	----	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401100**	Page	: 1 of 4
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 06-Aug-2024 12:25
PO	: YEL218	Issue Date	: 29-Aug-2024 14:39
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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 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	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
Container / Client Sample ID(s)			*Preparation Date*	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Bioassays : Survival/LC50 Daphnia Magna 48 hours										
LDPE carboy										
SNP431-Acute-240806	DAP-LC50-48	06-Aug-2024	----	----	----		29-Aug-2024	5 days	23 days	× EHT
Bioassays : Survival/LC50 Rainbow Trout (96 hours)										
LDPE carboy										
SNP431-Acute-240806	TRT-LC50-96	06-Aug-2024	----	----	----		29-Aug-2024	5 days	23 days	× EHT

Legend & Qualifier Definitions

EHT: Exceeded ALS recommended hold time prior to analysis.

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

Quality Control Parameter Frequency Compliance

- **No Quality Control data available for this section.**

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
Survival/LC50 Daphnia Magna 48 hours	DAP-LC50-48 Nautilus Environmental (Calgary) - 10828 27 Street SE Calgary Alberta Canada T2Z 3V9	Water	EPS1/RM/14	See attached report.
Survival/LC50 Rainbow Trout (96 hours)	TRT-LC50-96 Nautilus Environmental (Calgary) - 10828 27 Street SE Calgary Alberta Canada T2Z 3V9	Water	EPS1/RM/13	See attached report.

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QUALITY CONTROL REPORT

Work Order	: **YL2401100**	Page	: 1 of 2
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 06-Aug-2024 12:25
PO	: YEL218	Date Analysis Commenced	: 29-Aug-2024
C-O-C number	: ----	Issue Date	: 29-Aug-2024 14:39
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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:

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*
Oliver Gregg	Cleint Services Supervisor	Nautilus Environmental (Calgary) External Subcontracting, 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.

Acute Toxicity Test Results

Samples collected August 6, 2024

Final Report

August 28, 2024

Submitted to: **ALS Environmental**
Yellowknife, NT

10823 27 Street SE, Calgary, AB T2Z 3V9

SAMPLE INFORMATION

Sample ID/ Internal ID	Dates				Receipt temperature
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation	
YL2401100-001 SNP431-Acute-240806/ 2324-2819	2024-08-06 at 0000h	2024-08-07 at 1500h	2024-08-10 at 1245h	2024-08-09 at 1435h	4.8°C

TEST TYPES

- Rainbow trout 96-h LC50 test
- *Daphnia magna* 48-h LC50, EC50 test

RESULTS

Toxicity test results

Sample ID	LC50/EC50 (% v/v)		
	Rainbow trout	*Daphnia magna*	
	LC50	LC50	EC50
YL2401100-001 SNP431-Acute-240806	>100	>100	>100

LC = Lethal Concentration, EC= Effect Concentration

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	3.3 (2.7-3.7) g/L KCl[1]	6.7 (6.3-7.2) g/L NaCl[2]
Reference toxicant historical mean (2 SD Range)	3.8 (2.8-5.0) g/L KCl	6.3 (5.5-7.2) g/L NaCl
Reference toxicant CV	9.3%	4.3%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1] Test date 2024-07-15; [2]Test date 2024-07-31

LC = Lethal Concentration, CL = Confidence Limit, SD = Standard Deviation, CV = Coefficient of Variation

Muneera Siddiqua

Report By:
Muneera Siddiqua, BSc
Laboratory Biologist

Reviewed By:
Alyssa Minifie, BSc
Laboratory Biologist

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) survival test.

Test species	*Oncorhynchus mykiss*
Organism source	Fish hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	5-gallon glass aquariums
Test volume	10 - 20 L, depending on size of fish
Test solution depth	Minimum 15 cm
Test concentrations	Five concentrations, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	De-chlorinated City of Calgary tap water
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light/8 hours dark
Aeration	6.5 ±1 mL/min/L
Test Measurements	pH, conductivity, dissolved oxygen, and temperature were measured at test initiation and test completion; salinity measured at test initiation; evaluated for survival daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007, 2016, & 2023 amendments
Statistical software	None
Test endpoints	96-hour LC50
Test acceptability criteria for controls	Survival ≥ 90%
Reference toxicant	Potassium chloride (KCl)

Table 2. Summary of test conditions: 48-h *Daphnia magna* survival test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24 hours
Test type	Static
Test duration	48 hours
Test vessel	375 mL glass vessels
Test volume	150 mL
Test concentrations	Five concentrations, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	De-chlorinated City of Calgary tap water amended with 4 mg/L KCl and with B12 (2 µg/L) and Na_2SeO_4 (2 µg Se/L)
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light/8 hours dark
Aeration	None
Test measurements	pH, conductivity, dissolved oxygen, and temperature measured at test initiation and completion; salinity and hardness measured at test initiation in undiluted sample; evaluated daily for survival
Test protocol	Environment Canada (2000), EPS 1/RM/14 with February 2016 amendments
Statistical software	None
Test endpoints	48-h LC50
Test acceptability criteria for controls	Survival ≥ 90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

NAUTILUS

Trout Bench Sheet

Method TRD Client ALS106 Reference 2324-2819 Chamber 3

Test Log

Day	Date	Time	Initial	Chem. Cart	Double Counted	Daily Data Review
0	2024/08/10	1245 *	KZ	7	BH	EP
1	2024/08/11	0820	KZ	-	-	CC
2	2024/08/12	0850	BP	-	-	AC
3	2024/08/13	0845	BH	-	-	AC
4	2024/08/14	1200	BP	7	-	BS

Note: * ; time when the test was loaded with fish

Sample Information

Initial pH: 6.8
Initial EC (µS/cm): 3360
Salinity (ppt): 4

Sample Pre-Aeration

Aeration rate adjusted to 6.5 +/- 1 mL/min/L **yes/no**

Preaeration time	0 hours	0.5 hours	1 hour	1.5 hours	2 hours
DO(mg/L) of 100%	8.5	8.6			
Temp (°C) of 100%	16				

DO in mg/L (70% - 100% saturation)**
6.2 mg/L - 8.9 mg/L at 14°C
6.1 mg/L - 8.8 mg/L at 15°C
6.0 mg/L - 8.6 mg/L at 16°C
**corrected for altitude

Test Chemistry and Biology

Conc.	6.25	12.5	25	50	100		
pH (units) (range: 5.5-8.5)							
Day 0	7.8 ~~7.4~~	7.8	7.8	7.8	7.7		
Day 4	7.9	7.9	7.8	7.8	7.6		
EC (uS/cm)							
Day 0	653	917	1368	1981	3460		
Day 4	661	924	1317	2000	3510		
DO (mg/L) (70-100% saturation at test temp.)							
Day 0	8.6	8.6	8.6	8.6	8.6		
Day 4	8.6	8.8	8.8	8.8	8.8		
Temperature (°C) (range: 14-16°C)							
Day 0	16	16	16	16	16		
Day 4	16	15	15	15	15		
Number Alive (In brackets number stressed)							
Day 0	10	10	10	10	10		
Day 1	10	10	10	10	10		
Day 2	10	10	10	10	10		
Day 3	10	10	10	10	10		
Day 4	10	10	10	10	10		

Unless otherwise noted, behavior is considered to be normal

Test Volume 18

Control Reference Number: 20240810CTLA

Comments :

Reviewed By: LC Date Reviewed: 2024 -08- 20

NAUTILUS

Control Trout Bench Sheet

Client NE Control Reference Number 20240810CTLA Chamber 3

Test Log

Day	Date	Time	Initial	Chem. Cart	Double Counted	Daily Data Review
0	2024/08/10	1245 *	KZ	7	BH	[illegible]
1	2024/08/11	0820	KZ	-	-	CC
2	2024/08/12	0850	BP	-	-	JC
3	2024/08/13	0845	BH	-	-	JC
4	2024/08/14	1200	BP	7	-	BS

Note: * ; time when the test was loaded with fish

Sample Reference Number(s):
2324-2819
2324-2822
2324-2833
2324-2844-01
2324-2844-02

Control Pre-Aeration

Aeration rate adjusted to 6.5 +/- 1 mL/min/L : **yes/no**

Test Chemistry and Biology

Conc. CTL

pH (units) (range: **5.5-8.5**)

Day 0 7.8

Day 4 7.7

EC (uS/cm)

Day 0 423

Day 4 416

DO (mg/L) (**70-100% saturation at test temp.**)

Day 0 8.6

Day 4 8.6

Temperature (°C) (range: **14-16°C**)

Day 0 16

Day 4 16

DO in mg/L (70% - 100% saturation)**
6.2 mg/L - 8.9 mg/L at 14°C
6.1 mg/L - 8.8 mg/L at 15°C
6.0 mg/L - 8.6 mg/L at 16°C

**corrected for altitude

Number Alive (In brackets number stressed)

Day 0 10

Day 1 10

Day 2 10

Day 3 10

Day 4 10

Validity Criteria: must be ≤ 10% mortality and/or stressed behavior in the control

Unless otherwise noted, behavior is considered to be normal

Test Organism Information

Batch 20240508TR

Source Trout Lodge

Tank # 3

Held at 15± 2°C for ≥14 days (must be ≥14 days) Y

Percent stock mortality (7 days prior to test, must be <2%) 0.05

Test Volume (L) 16

Acceptable Test Volume Ranges
(10% of the control)

14 L control allows for 13 L - 15 L test(s)
16 L control allows for 14 L - 18 L test(s)
18 L control allows for 16 L - 20 L test(s)

Control Organism Data

Control Fish	Length (cm)	Weight (g)
1	3.7	0.5
2	3.6	0.4
3	3.0	0.3
4	3.9	0.5
5	3.9	0.5
6	3.8	0.5
7	3.5	0.4
8	3.5	0.4
9	3.7	0.5
10	3.6	0.5

Loading Density (g/L): 0.3
(must be ≤0.5 g/L)

Mean Length (cm): 3.6 ~~3.0-3.9~~

Length Range (cm): ~~3.0-3.6~~ ~~3.9~~ 3.0-3.9 no

Mean Weight (g): 0.5
(Must be ≥0.3g)

Weight Range: (g): 0.3-0.5

Comments/Protocol Deviations :

none

Reviewed By: CC Date Reviewed: 2024/08/14

NAUTILUS ENVIRONMENTAL

Daphnia Bench Sheet

Method: DAD Client: ALS106 Reference: 2324-2819

Test Log

Day	Date	Time	Technician	Chem. Cart	Daily Data Review
0	2024-08-09	1435	BS/LS	2	LC
1	2024-08-10	0910	KZ	-	FP
2	2024-08-11	1240	KZ	3	MS

Sample Information

Initial pH: 6.8
Initial EC (µS/cm): 3380
Salinity (ppt): 4

Lab Code	CTL	6.25	12.5	25	50	100				
pH (units) (range: 6.0-8.5)										
day 0	8.1	8.1	8.1	8.1	7.9	7.7				
2	8.2	8.2	8.2	8.2	8.2	7.9				
EC (uS/cm)										
0	404	656	874	1261	2090	3530				
2	415	667	861	1246	2030	3430				
DO (mg/L) (40-100% saturation at test temp.)										
0	7.9	7.9	7.9	7.9	7.9	7.9				
2	7.9	7.9	7.9	7.9	7.9	7.9				
Temperature (°C) (range: 18-22 °C)										
0	20	20	20	20	20	20				
2	20	20	20	20	20	20				
Number Alive (I, immobile)										
0	10	10	10	10	10	10				
1	10	10	10	10	10	10				
2	10	10	9	10	10	10				

Validity Criteria: must be ≤ 10% mortality and/or abnormal behavior in the control

Notes: Immobile; daphnid can't swim after 60 sec. even if antenna still move

Unless otherwise noted, behaviour is considered to be normal

Culture

Young jar WED 22 Jar(s) mortality 7 days prior to test (must be ≤25%) 0%

QA (previous month)

Days to first brood (≤12 days) 8

Average number of young produced (≥15 young) 30

Were test treatments randomized on test tray? (Yes) / No

Control Validity Criteria

Mean % mortality at 48 hours - (must be ≤10%) 3%

Sample

DO (mg/L) of sample prior to aeration: 7.9 Temperature (°C) of sample prior to aeration: 20

DO % of sample prior to aeration: 100% Is aeration required (<40% or >100%)? **Yes or (No)**

Duration of aeration (37.5 +/- 12.5 mL/min/L) : — Filtered with 110um screen prior to testing **Yes or (No)**

Hardness (mg $CaCO_3$/L) of 100% : 1171 Is hardness adjustment required (<25 mg $CaCO_3$/L)? **Yes or (No)**

Hardness of sample after adjustment (must be between 25 - 30 mg $CaCO_3$/L) —

Alkalinity of 100% sample (mg $CaCO_3$/L): —

Dilution Water

Pail label / preparation date D2:08/07

Hardness of dilution water (mg/L) 155

DO Levels (40-100% saturation) - corrected for altitude -

3.3 to 8.2 mg/L at 18°C
3.2 to 8.1 mg/L at 19°C
3.2 to 7.9 mg/L at 20°C
3.1 to 7.7 mg/L at 21°C
3.0 to 7.6 mg/L at 22°C

Comments/Observations:

Reviewed By: LC Date Reviewed: 2024-08-20

APPENDIX C – Chain-of-custody form

Chain of Custody

ALS Environmental - Yellowknife
314 Old Airport Road, Unit 116
Yellowknife NT Canada X1A
3T3

199329

Destination Lab:	**Nautilus Environmental (Calgary)**
Address:	10828 27 Street SE Calgary AB Canada T2Z 3V9
Work Order Number:	**YL2401100**
Original Receipt Date/Time	Instructions Received
06/08/2024 12:25	

2324-2819
2024/08/07
15:00
Drop off
JC
5x10L carboys
N65/N65
Good Cond.

Relinquished By
Date/Time
Received By
Date/Time
Receipt Temp

Return as Indicated: Results: ALSYK.ClientServices@alsglobal.com Invoice: ALSYK.ClientServices@alsglobal.com Electronic Data: ALSYK.ClientServices@alsglobal.com

Attention: Oliver Gregg

ALS Sample ID	Client ID	Matrix	Container Type	Test Codes	Method Description	Due Date	Sampling Date and Time	Remarks
YL2401100-001	SNP431-Acute -240806	Water	LDPE carboy 4.8°C	DAP-LC50-48, TRT-LC50-96	Survival/LC50 Daphnia Magna 48 hours, Survival/LC50 Rainbow Trout (96 hours)	13-08-2024	06/08/2024 00:00	
YL2401100-001	SNP431-Acute -240806	Water	LDPE carboy			13-08-2024	06/08/2024 00:00	
YL2401100-001	SNP431-Acute -240806	Water	LDPE carboy			13-08-2024	06/08/2024 00:00	
YL2401100-001	SNP431-Acute -240806	Water	LDPE carboy			13-08-2024	06/08/2024 00:00	
YL2401100-001	SNP431-Acute -240806	Water	LDPE carboy			13-08-2024	06/08/2024 00:00	

END OF REPORT

Environmental Division
Yellowknife
Work Order Reference
YL2401100

Telephone : +1 867 873 5593

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 689-8957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4236
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@rcaanc-cirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original Signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife, NT X1A 0G5
Telephone: (867) 689-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:		As required - Marked on bottle																		
√ = Field Filtered:		As required - Marked on bottle																		
√ = Standard TAT:		√	√	√	√	√	√	√	√	√	√	√								
√ = 1-Day Rush:																				

Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Radium-226	Toxicity - acute LC50 with D. Magna and Rainbow Trout	Toxicity - sub lethal LC50 with C. dubia, Fathead Minnow, L.							
SNP431-Acute-240806	SNP 43-1	6-Aug-24		Water			G	5										X								

Relinquished by (Sampler Signature/ Print):
Keenan Kakfwi

Date/Time: 2024-August-06 12:25

Company: SLR Consulting

Received by (Name):

Received by (Signature)

Company: ALS

SAMPLE CONDITION (lab use only)

Sample Receipt Temperature (deg. C): 14.8

Samples Received in Good Condition? Yes / No (If no, provide details.)

On cooling media: Y / N

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401115**	Page	: 1 of 15
Amendment	: **2**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 07-Aug-2024 09:15
PO	: YEL218	Date Analysis Commenced	: 07-Aug-2024
C-O-C number	: ----	Issue Date	: 19-Aug-2024 16:43
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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*
Daniel Shabestani	Lab Assistant	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	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Manpreet Cheema	Lab Assistant	Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Oliver Gregg	Client Services Supervisor	External Subcontracting, Yellowknife, Northwest Territories
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia
Sam Silveira	Analyst	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
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
CFU/100mL	colony forming units per hundred millilitres
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
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*
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).*
HTP	*Sample preparation or preservation hold time was exceeded.*
RRV	*Reported result verified by repeat analysis.*
SUR-ND	*Surrogate recovery marginally exceeded ALS DQO. Reported non-detect results for associated samples were deemed to be unaffected.*

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: SNP431-240806	BCEP-240806	FB-BCEP-240806	SNP4311-240806	DUP-SNP4311-240806
				Client sampling date / time	06-Aug-2024 11:45	06-Aug-2024 14:40	06-Aug-2024 14:40	06-Aug-2024 15:47	06-Aug-2024 15:47
					YL2401115-001	YL2401115-002	YL2401115-003	YL2401115-004	YL2401115-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	41.0	30.6	<1.0	87.7	87.7
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	41.0	30.6	<1.0	87.7	87.7
Conductivity	----	E100/VA	1.0	µS/cm	3440	3420	<1.0	189	186
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1500	1490	<0.60	87.4	85.0
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1500	1490	<0.60	85.8	85.3
pH	----	E108/VA	0.10	pH units	7.86	7.74	5.65	8.19	8.19
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	2920	2840	<3.0	148	144
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	4.2	<1.0	1.2	1.4
Turbidity	----	E121/VA	0.10	NTU	0.30	1.52	<0.10	1.36	1.44
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0186	0.0174	<0.0050	0.0598	0.0602
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	6.56	6.35	<0.050	<0.050	<0.050
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	498	491	<0.50	3.81	3.80
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.400 DLDS	<0.400 DLDS	<0.020	0.141	0.139
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.528	0.282	<0.0050	0.0827	0.0888
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.528	0.282	<0.0051	0.0854	0.0914
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0200 DLDS	<0.0200 DLDS	<0.0010	0.0027	0.0026
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	----	0.0280	<0.0020	0.0377	0.0402
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	1.34	0.98	<0.50	1.13	1.14
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	1190	1190	<0.30	2.82	2.83
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/VA	0.0050	mg/L	<0.0050	----	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	6.87	8.23	<0.50	15.6	17.0

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-240806	BCEP-240806	FB-BCEP-240806	SNP4311-240806	DUP-SNP4311-240806
				Client sampling date / time	06-Aug-2024 11:45	06-Aug-2024 14:40	06-Aug-2024 14:40	06-Aug-2024 15:47	06-Aug-2024 15:47
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401115-001	YL2401115-002	YL2401115-003	YL2401115-004	YL2401115-005
					Result	Result	Result	Result	Result
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	6.58	7.35	<0.50	15.8	16.2
Total Sulfides									
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L	<0.0015	----	----	----	----
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	FC-MF/1Y	1.0	CFU/100mL	<1.0	----	----	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	39.8	39.3	<0.10	1.93	1.93
Cation sum	----	EC101/VA	0.10	meq/L	38.2	37.8	<0.10	2.00	1.96
Ion balance (APHA)	----	EC101/VA	0.01	%	-2.05	-1.94	0.0	1.78	0.77
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0118	0.0542	<0.0030	0.0079	0.0106
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.171	0.142	<0.00010	0.00081	0.00078
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.243	0.272	0.00013	0.0424	0.0428
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0170	0.0296	<0.00010	0.0178	0.0176
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	<0.000100 DLA	<0.000050	<0.000050	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.358	0.342	<0.010	<0.010	<0.010
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000200 DLM	<0.0000150 DLM	<0.0000050	<0.0000050	<0.0000050
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	435	428	<0.050	22.7	22.7
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000416	0.000267	<0.000010	0.000015	0.000014
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00028	0.00025	<0.00010	<0.00010	<0.00010
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00460	0.00292	<0.00010	0.00013	0.00013
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00761	0.00845	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.044	0.154	<0.010	0.095	0.097
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000100 DLA	0.000219	<0.000050	<0.000050	<0.000050
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0363	0.0347	<0.0010	0.0031	0.0031
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	101	102	<0.0050	7.06	6.94
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00417	0.0506	<0.00010	0.485	0.478
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050

Analytical Results

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

				Client sample ID	SNP431-240806	BCEP-240806	FB-BCEP-240806	SNP4311-240806	DUP-SNP4311-240806
				Client sampling date / time	06-Aug-2024 11:45	06-Aug-2024 14:40	06-Aug-2024 14:40	06-Aug-2024 15:47	06-Aug-2024 15:47
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401115-001	YL2401115-002	YL2401115-003	YL2401115-004	YL2401115-005
					Result	Result	Result	Result	Result
Total Metals									
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0172	0.0138	<0.000050	0.00108	0.00110
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00791	0.00753	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.100 DLA	<0.100 DLA	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	12.6	12.4	<0.050	1.65	1.67
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.0117	0.0115	<0.00020	0.00461	0.00447
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000324	0.000324	<0.000050	<0.000050	0.000058
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	0.71	0.61	<0.10	0.58	0.60
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000044	0.000025	<0.000010	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	194	192	<0.050	4.63	4.70
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	4.32	4.13	<0.00020	0.0819	0.0788
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	431	426	<0.50	1.34	1.27
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	0.00042	0.00047	<0.00020	<0.00020	<0.00020
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000023	<0.000020 DLA	<0.000010	<0.000010	<0.000010
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00010	<0.00010	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00010	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00060 DLA	<0.00180 DLM	<0.00030	<0.00030	<0.00030
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00028	<0.00020 DLA	<0.00010	<0.00010	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00264	0.00188	<0.000010	0.000495	0.000484
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0060 DLA	<0.0060 DLA	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	<0.00020	<0.00020	<0.00020
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0108	0.0108	<0.0010	0.0035	0.0037
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.172	0.146	<0.00010	0.00078	0.00081
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.230	0.255	<0.00010	0.0395	0.0398
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0163	0.0292	<0.00010	0.0144	0.0148
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000050	<0.000050	<0.000050
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.327	0.320	<0.010	<0.010	<0.010
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000218	<0.0000100 DLA	<0.0000050	<0.0000050	<0.0000050

Analytical Results

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

				Client sample ID	SNP431-240806	BCEP-240806	FB-BCEP-240806	SNP4311-240806	DUP-SNP4311-240806
				Client sampling date / time	06-Aug-2024 11:45	06-Aug-2024 14:40	06-Aug-2024 14:40	06-Aug-2024 15:47	06-Aug-2024 15:47
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401115-001	YL2401115-002	YL2401115-003	YL2401115-004	YL2401115-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	430	430	<0.050	23.6	22.8
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000399	0.000267	<0.000010	0.000015	0.000016
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00023	<0.00020 DLA	<0.00010	<0.00010	<0.00010
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00438	0.00283	<0.00010	0.00011	0.00011
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00681	0.00770	<0.00020	0.00040	0.00045
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	<0.020 DLA	0.071	<0.010	0.055	0.058
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000050	<0.000050	<0.000050
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0372	0.0357	<0.0010	0.0034	0.0033
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	104	102	<0.0050	6.92	6.83
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00294	0.0452	<0.00010	0.399	0.410
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.0170	0.0141	<0.000050	0.00105	0.00110
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00794	0.00723	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.100 DLA	<0.100 DLA	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	13.0	12.7	<0.050	1.70	1.69
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.0117	0.0111	<0.00020	0.00444	0.00437
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000335	0.000330	<0.000050	<0.000050	0.000065
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	0.664	0.442	<0.050	0.545	0.564
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	0.000028	<0.000020 DLA	<0.000010	<0.000010	<0.000010
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	181	176	<0.050	4.42	4.39
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	4.32	4.26	<0.00020	0.0820	0.0840
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	446	430	<0.50	1.38	1.39
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	<0.00020	<0.00020	<0.00020
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	0.000023	<0.000020 DLA	<0.000010	<0.000010	<0.000010
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00010	<0.00010	<0.00010
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00010	<0.00010	<0.00010
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00060 DLA	<0.00060 DLA	<0.00030	<0.00030	<0.00030
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00027	0.00021	<0.00010	<0.00010	<0.00010
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00252	0.00181	<0.000010	0.000468	0.000468

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-240806	BCEP-240806	FB-BCEP-240806	SNP4311-240806	DUP-SNP4311-240806
				Client sampling date / time	06-Aug-2024 11:45	06-Aug-2024 14:40	06-Aug-2024 14:40	06-Aug-2024 15:47	06-Aug-2024 15:47
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401115-001	YL2401115-002	YL2401115-003	YL2401115-004	YL2401115-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0020 DLA	0.0028	<0.0010	<0.0010	<0.0010
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	<0.00020	<0.00020	<0.00020
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	100-42-5	E611A/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	108-88-3	E611A/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
F2 (C10-C16)	----	E601/VA	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
F3 (C16-C34)	----	E601/VA	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25
F4 (C34-C50)	----	E601/VA	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	<0.38	<0.38	<0.38	<0.38	<0.38
F1-BTEX	----	EC580/VA	0.100	mg/L	<0.100	<0.100	<0.100	<0.100	<0.100
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	86.8	82.7	89.6	100	108
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	81.6	92.0	96.2	97.4	65.8 SUR-ND
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	98.8	104	103	98.5	99.8
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	103	104	104	103	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	TRCK-240806	SNP4321A-240806	SNP4323-240806	SNP435-240806	TB-240806
				Client sampling date / time	06-Aug-2024 16:16	06-Aug-2024 17:05	06-Aug-2024 17:47	06-Aug-2024 18:10	06-Aug-2024 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401115-006	YL2401115-007	YL2401115-008	YL2401115-009	YL2401115-010
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	137	186	40.5	39.7	<1.0
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	5.2	<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	2.6	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	142	186	40.5	39.7	<1.0
Conductivity	----	E100/VA	1.0	µS/cm	796	3140	3390	3380	<1.0
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	332	1390	1520	1540	<0.60
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	289	1310	1450	1450	<0.60
pH	----	E108/VA	0.10	pH units	8.46	8.27	7.77	7.78	5.49
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	576	2640	2870	2880	<3.0
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	1.5	<1.0	1.8	1.6	<1.0
Turbidity	----	E121/VA	0.10	NTU	1.12	0.85	3.17	2.18	<0.10
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0214	0.707	0.0118	0.0120	<0.0050
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	0.689	6.26	6.69	6.42	<0.050
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	85.3	482	483	481	<0.50
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.100 DLDS	<0.400 DLDS	<0.400 DLDS	<0.400 DLDS	<0.020
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.124	0.492	<0.100 DLDS	<0.100 DLDS	<0.0050
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.124	0.524	<0.102	<0.102	<0.0051
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0050 DLDS	0.0322	<0.0200 DLDS	<0.0200 DLDS	<0.0010
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0357	----	0.0216	0.0215	<0.0020
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	2.19	11.5	0.54	0.52	<0.50
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	130	837	1170	1170	<0.30
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/VA	0.0050	mg/L	----	----	----	----	<0.0050 HTP
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	27.2	9.09 RRV	7.75	8.21	<0.50
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	25.9	7.07 RRV	7.26	6.93	<0.50

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240806	SNP4321A-240806	SNP4323-240806	SNP435-240806	TB-240806
				Client sampling date / time	06-Aug-2024 16:16	06-Aug-2024 17:05	06-Aug-2024 17:47	06-Aug-2024 18:10	06-Aug-2024 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401115-006	YL2401115-007	YL2401115-008	YL2401115-009	YL2401115-010
					Result	Result	Result	Result	Result
Total Sulfides									
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L	----	----	----	----	<0.0015
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	FC-MF/1Y	1.0	CFU/100mL	----	<1.0	----	----	<1.0
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	7.97	34.8	38.9	38.8	<0.10
Cation sum	----	EC101/VA	0.10	meq/L	8.46	36.4	39.0	39.2	<0.10
Ion balance (APHA)	----	EC101/VA	0.01	%	2.98	2.25	0.13	0.51	0.0
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0287	<0.0300 DLA	0.0888	0.0348	<0.0030
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00412	0.661	0.123	0.112	<0.00010
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.121	22.3	0.186	0.160	<0.00010
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0353	0.0505	0.0564	0.0559	<0.00010
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000200 DLA	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000500 DLA	<0.000100 DLA	<0.000100 DLA	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.026	0.353	0.321	0.321	<0.010
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	0.000292	<0.0000450 DLM	<0.0000400 DLM	<0.0000050
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	59.7	374	427	427	<0.050
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	0.000662	0.000176	0.000163	<0.000010
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00100 DLA	0.00022	<0.00020 DLA	<0.00010
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00500 DLA	<0.00100 DLA	<0.00100 DLA	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00239	0.0393	0.00265	0.00242	<0.00010
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	<0.00500 DLA	0.00479	0.00416	<0.00050
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.057	0.254	0.332	0.267	<0.010
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	0.00358	0.00161	0.000511	<0.000050
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0128	0.0321	0.0346	0.0333	<0.0010
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	34.0	91.4	93.6	93.7	<0.0050
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0149	0.519	0.0920	0.0811	<0.00010
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	0.000562	0.0176	0.0111	0.0108	<0.000050
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00063	0.0425	0.00619	0.00585	<0.00050

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240806	SNP4321A-240806	SNP4323-240806	SNP435-240806	TB-240806
				Client sampling date / time	06-Aug-2024 16:16	06-Aug-2024 17:05	06-Aug-2024 17:47	06-Aug-2024 18:10	06-Aug-2024 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401115-006	YL2401115-007	YL2401115-008	YL2401115-009	YL2401115-010
					Result	Result	Result	Result	Result
Total Metals									
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.500 DLA	<0.100 DLA	<0.100 DLA	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	5.03	11.6	12.5	12.4	<0.050
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00274	0.00910	0.0118	0.0113	<0.00020
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000052	<0.000500 DLA	0.000275	0.000205	<0.000050
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	1.16	6.03	0.44	0.36	<0.10
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000100 DLA	0.000023	<0.000020 DLA	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	35.7	182	182	181	<0.050
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.324	4.56	4.00	3.92	<0.00020
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	45.5	298	420	416	<0.50
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00200 DLA	0.00060	0.00058	<0.00020
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000100 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00100 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00100 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00096	<0.00300 DLA	<0.00390 DLM	<0.00150 DLM	<0.00030
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00100 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000895	0.00569	0.00140	0.00135	<0.000010
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00500 DLA	<0.00100 DLA	<0.00100 DLA	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	0.0458	0.0062	<0.0060 DLA	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00200 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0057	<0.0200 DLA	0.0043	0.0039	<0.0010
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00412	0.630	0.119	0.111	<0.00010
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.130	22.7	0.152	0.127	<0.00010
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0326	0.0459	0.0520	0.0540	<0.00010
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000400 DLA	<0.000100	<0.000100	<0.000100
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.00100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000050
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.027	0.330	0.277	0.311	<0.010
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	0.000183	0.0000299	0.0000394	<0.0000050
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	64.5	386	423	439	<0.050
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	0.000644	0.000156	0.000150	<0.000010

Analytical Results

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

				Client sample ID	TRCK-240806	SNP4321A-240806	SNP4323-240806	SNP435-240806	TB-240806
				Client sampling date / time	06-Aug-2024 16:16	06-Aug-2024 17:05	06-Aug-2024 17:47	06-Aug-2024 18:10	06-Aug-2024 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401115-006	YL2401115-007	YL2401115-008	YL2401115-009	YL2401115-010
					Result	Result	Result	Result	Result
Dissolved Metals									
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00200 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.0100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00050
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00245	0.0394	0.00260	0.00243	<0.00010
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00022	<0.00400 DLA	0.00332	0.00368	<0.00020
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.027	<0.200 DLA	0.092	0.092	<0.010
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	0.00344	0.000451	0.000175	<0.000050
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0136	0.0299	0.0294	0.0301	<0.0010
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	41.6	104	112	108	<0.0050
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00971	0.533	0.0927	0.0828	<0.00010
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.000546	0.0182	0.0115	0.0111	<0.000050
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00070	0.0429	0.00617	0.00581	<0.00050
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<1.00 DLA	<0.100 DLA	<0.100 DLA	<0.050
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	5.11	11.5	13.1	12.7	<0.050
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00282	0.0112	0.0123	0.0119	<0.00020
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000063	<0.00100 DLA	0.000230	0.000146	<0.000050
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	1.12	5.30	0.257	0.241	<0.050
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000200 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	38.8	189	193	186	<0.050
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.330	4.68	4.16	3.98	<0.00020
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	46.8	288	444	446	<0.50
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00400 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000200 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00200 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00200 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00600 DLA	<0.00060 DLA	<0.00060 DLA	<0.00030
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00010	<0.00200 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.000936	0.00565	0.00143	0.00140	<0.000010
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	<0.0100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00050
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	0.0478	0.0049	0.0048	<0.0010

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240806	SNP4321A-240806	SNP4323-240806	SNP435-240806	TB-240806
				Client sampling date / time	06-Aug-2024 16:16	06-Aug-2024 17:05	06-Aug-2024 17:47	06-Aug-2024 18:10	06-Aug-2024 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401115-006	YL2401115-007	YL2401115-008	YL2401115-009	YL2401115-010
					Result	Result	Result	Result	Result
Dissolved Metals									
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00400 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	----	<0.00050	----	<0.00050	<0.00050
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	----	<0.00050	----	<0.00050	<0.00050
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	----	<0.00050	----	<0.00050	<0.00050
Styrene	100-42-5	E611A/VA	0.00050	mg/L	----	<0.00050	----	<0.00050	<0.00050
Toluene	108-88-3	E611A/VA	0.00050	mg/L	----	<0.00050	----	<0.00050	<0.00050
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	----	<0.00040	----	<0.00040	<0.00040
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	----	<0.00030	----	<0.00030	<0.00030
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	----	<0.00050	----	<0.00050	<0.00050
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	----	<0.10	----	<0.10	<0.10
F2 (C10-C16)	----	E601/VA	0.10	mg/L	----	<0.10	----	<0.10	<0.10
F3 (C16-C34)	----	E601/VA	0.25	mg/L	----	<0.25	----	<0.25	<0.25
F4 (C34-C50)	----	E601/VA	0.25	mg/L	----	<0.25	----	<0.25	<0.25
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	----	<0.38	----	<0.38	<0.38
F1-BTEX	----	EC580/VA	0.100	mg/L	----	<0.100	----	<0.100	<0.100
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	97.2	----	83.2	94.8
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	85.2	----	95.3	85.6
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	96.9	----	101	96.3
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	103	----	102	102

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401115**	Page	: 1 of 41
Amendment	: **2**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 07-Aug-2024 09:15
PO	: YEL218	Issue Date	: 19-Aug-2024 16:44
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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.
- Test sample Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

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.

Regular Sample Surrogates

Sub-Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Result	Limits	Comment
Samples Submitted							
Hydrocarbons Surrogates	YL2401115-005	DUP-SNP4311-240806	Dichlorotoluene, 3,4-	95-75-0	65.8 %	70.0-130 %	Recovery less than lower data quality objective

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) SNP435-240806	E298	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	12-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) DUP-SNP4311-240806	E298	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) FB-BCEP-240806	E298	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4311-240806	E298	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4321A-240806	E298	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TRCK-240806	E298	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) BCEP-240806	E298	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	13-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 : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP431-240806	E298	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	13-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4323-240806	E298	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	13-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (lab preserved) TB-240806	E298	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	12-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE BCEP-240806	E235.Br-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE DUP-SNP4311-240806	E235.Br-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE FB-BCEP-240806	E235.Br-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4311-240806	E235.Br-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP431-240806	E235.Br-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4321A-240806	E235.Br-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 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
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4323-240806	E235.Br-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP435-240806	E235.Br-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE TB-240806	E235.Br-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE TRCK-240806	E235.Br-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE BCEP-240806	E235.Cl	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP-SNP4311-240806	E235.Cl	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE FB-BCEP-240806	E235.Cl	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4311-240806	E235.Cl	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP431-240806	E235.Cl	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 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
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4321A-240806	E235.Cl	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4323-240806	E235.Cl	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP435-240806	E235.Cl	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TB-240806	E235.Cl	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TRCK-240806	E235.Cl	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE BCEP-240806	E235.F	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-SNP4311-240806	E235.F	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE FB-BCEP-240806	E235.F	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4311-240806	E235.F	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 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
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP431-240806	E235.F	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4321A-240806	E235.F	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4323-240806	E235.F	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP435-240806	E235.F	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TB-240806	E235.F	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TRCK-240806	E235.F	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE BCEP-240806	E235.NO3-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE DUP-SNP4311-240806	E235.NO3-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE FB-BCEP-240806	E235.NO3-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 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
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
SNP4311-240806	E235.NO3-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
SNP431-240806	E235.NO3-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
SNP4321A-240806	E235.NO3-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
SNP4323-240806	E235.NO3-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
SNP435-240806	E235.NO3-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
TB-240806	E235.NO3-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
TRCK-240806	E235.NO3-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
BCEP-240806	E235.NO2-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
DUP-SNP4311-240806	E235.NO2-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
FB-BCEP-240806	E235.NO2-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP4311-240806	E235.NO2-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP431-240806	E235.NO2-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP4321A-240806	E235.NO2-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP4323-240806	E235.NO2-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP435-240806	E235.NO2-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
TB-240806	E235.NO2-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
TRCK-240806	E235.NO2-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
BCEP-240806	E392	06-Aug-2024	----	----	----		14-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
DUP-SNP4311-240806	E392	06-Aug-2024	----	----	----		14-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
FB-BCEP-240806	E392	06-Aug-2024	----	----	----		14-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP4311-240806	E392	06-Aug-2024	----	----	----		14-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP431-240806	E392	06-Aug-2024	----	----	----		14-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP4321A-240806	E392	06-Aug-2024	----	----	----		14-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP4323-240806	E392	06-Aug-2024	----	----	----		14-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP435-240806	E392	06-Aug-2024	----	----	----		14-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
TB-240806	E392	06-Aug-2024	----	----	----		14-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
TRCK-240806	E392	06-Aug-2024	----	----	----		14-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 : Sulfate in Water by IC										
HDPE BCEP-240806	E235.SO4	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE DUP-SNP4311-240806	E235.SO4	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE FB-BCEP-240806	E235.SO4	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4311-240806	E235.SO4	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP431-240806	E235.SO4	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4321A-240806	E235.SO4	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4323-240806	E235.SO4	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP435-240806	E235.SO4	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TB-240806	E235.SO4	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 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
Anions and Nutrients : Sulfate in Water by IC										
HDPE TRCK-240806	E235.SO4	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP435-240806	E372-U	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) BCEP-240806	E372-U	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) DUP-SNP4311-240806	E372-U	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) FB-BCEP-240806	E372-U	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4311-240806	E372-U	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4323-240806	E372-U	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) TRCK-240806	E372-U	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (lab preserved) TB-240806	E372-U	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	11-Aug-2024	28 days	2 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
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide) SNP431-240806	E333	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	10-Aug-2024	14 days	4 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (lab preserved) TB-240806	E333	06-Aug-2024	10-Aug-2024	30 hrs	95 hrs	✗ EHTL	10-Aug-2024	30 hrs	95 hrs	✗ EHTL
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) BCEP-240806	E421.Cr-L	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	10-Aug-2024	180 days	4 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) DUP-SNP4311-240806	E421.Cr-L	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	10-Aug-2024	180 days	4 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) FB-BCEP-240806	E421.Cr-L	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	10-Aug-2024	180 days	4 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4311-240806	E421.Cr-L	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	10-Aug-2024	180 days	4 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP431-240806	E421.Cr-L	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	10-Aug-2024	180 days	4 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4321A-240806	E421.Cr-L	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4323-240806	E421.Cr-L	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-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 Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP435-240806	E421.Cr-L	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TB-240806	E421.Cr-L	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TRCK-240806	E421.Cr-L	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) BCEP-240806	E509	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-SNP4311-240806	E509	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) FB-BCEP-240806	E509	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4311-240806	E509	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP431-240806	E509	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4321A-240806	E509	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-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
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4323-240806	E509	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP435-240806	E509	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial - dissolved (lab preserved) TB-240806	E509	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) TRCK-240806	E509	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) BCEP-240806	E421	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	11-Aug-2024	180 days	5 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) DUP-SNP4311-240806	E421	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	11-Aug-2024	180 days	5 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) FB-BCEP-240806	E421	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	11-Aug-2024	180 days	5 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4311-240806	E421	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	11-Aug-2024	180 days	5 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP431-240806	E421	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	11-Aug-2024	180 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
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4321A-240806	E421	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4323-240806	E421	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP435-240806	E421	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TB-240806	E421	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TRCK-240806	E421	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) BCEP-240806	E601	06-Aug-2024	14-Aug-2024	14 days	8 days	✓	14-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) DUP-SNP4311-240806	E601	06-Aug-2024	14-Aug-2024	14 days	8 days	✓	14-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) FB-BCEP-240806	E601	06-Aug-2024	14-Aug-2024	14 days	8 days	✓	14-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP4311-240806	E601	06-Aug-2024	14-Aug-2024	14 days	8 days	✓	14-Aug-2024	40 days	1 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
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
SNP431-240806	E601	06-Aug-2024	14-Aug-2024	14 days	8 days	✓	14-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
SNP4321A-240806	E601	06-Aug-2024	14-Aug-2024	14 days	8 days	✓	14-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
SNP435-240806	E601	06-Aug-2024	14-Aug-2024	14 days	8 days	✓	14-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
TB-240806	E601	06-Aug-2024	14-Aug-2024	14 days	8 days	✓	14-Aug-2024	40 days	1 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
BCEP-240806	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
DUP-SNP4311-240806	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
FB-BCEP-240806	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
SNP4311-240806	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
SNP4321A-240806	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 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
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP435-240806	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP431-240806	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) TB-240806	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	8 days	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) SNP4321A-240806	FC-MF	06-Aug-2024	----	----	----		07-Aug-2024	30 hrs	16 hrs	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) SNP431-240806	FC-MF	06-Aug-2024	----	----	----		07-Aug-2024	30 hrs	22 hrs	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) TB-240806	FC-MF	06-Aug-2024	----	----	----		07-Aug-2024	30 hrs	22 hrs	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP435-240806	E358-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) BCEP-240806	E358-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) DUP-SNP4311-240806	E358-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
FB-BCEP-240806	E358-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SNP4311-240806	E358-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SNP431-240806	E358-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SNP4321A-240806	E358-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SNP4323-240806	E358-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
TRCK-240806	E358-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
TB-240806	E358-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP435-240806	E355-L	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	09-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
BCEP-240806	E355-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-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
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) DUP-SNP4311-240806	E355-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) FB-BCEP-240806	E355-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4311-240806	E355-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP431-240806	E355-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4321A-240806	E355-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4323-240806	E355-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) TRCK-240806	E355-L	06-Aug-2024	11-Aug-2024	28 days	5 days	✓	11-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (lab preserved) TB-240806	E355-L	06-Aug-2024	09-Aug-2024	3 days	3 days	✓	09-Aug-2024	28 days	0 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE BCEP-240806	E290	06-Aug-2024	09-Aug-2024	14 days	3 days	✓	10-Aug-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
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-SNP4311-240806	E290	06-Aug-2024	09-Aug-2024	14 days	3 days	✓	10-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE FB-BCEP-240806	E290	06-Aug-2024	09-Aug-2024	14 days	3 days	✓	10-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4311-240806	E290	06-Aug-2024	09-Aug-2024	14 days	3 days	✓	10-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP431-240806	E290	06-Aug-2024	09-Aug-2024	14 days	3 days	✓	10-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4321A-240806	E290	06-Aug-2024	09-Aug-2024	14 days	3 days	✓	10-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4323-240806	E290	06-Aug-2024	09-Aug-2024	14 days	3 days	✓	10-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP435-240806	E290	06-Aug-2024	09-Aug-2024	14 days	3 days	✓	10-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TB-240806	E290	06-Aug-2024	09-Aug-2024	14 days	3 days	✓	10-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TRCK-240806	E290	06-Aug-2024	09-Aug-2024	14 days	3 days	✓	10-Aug-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
Physical Tests : Conductivity in Water										
HDPE BCEP-240806	E100	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-SNP4311-240806	E100	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE FB-BCEP-240806	E100	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4311-240806	E100	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP431-240806	E100	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4321A-240806	E100	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4323-240806	E100	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP435-240806	E100	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE TB-240806	E100	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	10-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
Physical Tests : Conductivity in Water										
HDPE TRCK-240806	E100	06-Aug-2024	09-Aug-2024	28 days	3 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : pH by Meter										
HDPE SNP435-240806	E108	06-Aug-2024	09-Aug-2024	0.25 hrs	69 hrs	✘ EHTR-FM	10-Aug-2024	0.25 hrs	88 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4323-240806	E108	06-Aug-2024	09-Aug-2024	0.25 hrs	70 hrs	✘ EHTR-FM	10-Aug-2024	0.25 hrs	88 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4321A-240806	E108	06-Aug-2024	09-Aug-2024	0.25 hrs	71 hrs	✘ EHTR-FM	10-Aug-2024	0.25 hrs	89 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE TRCK-240806	E108	06-Aug-2024	09-Aug-2024	0.25 hrs	71 hrs	✘ EHTR-FM	10-Aug-2024	0.25 hrs	90 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-SNP4311-240806	E108	06-Aug-2024	09-Aug-2024	0.25 hrs	72 hrs	✘ EHTR-FM	10-Aug-2024	0.25 hrs	90 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4311-240806	E108	06-Aug-2024	09-Aug-2024	0.25 hrs	72 hrs	✘ EHTR-FM	10-Aug-2024	0.25 hrs	90 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE BCEP-240806	E108	06-Aug-2024	09-Aug-2024	0.25 hrs	73 hrs	✘ EHTR-FM	10-Aug-2024	0.25 hrs	91 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE FB-BCEP-240806	E108	06-Aug-2024	09-Aug-2024	0.25 hrs	73 hrs	✘ EHTR-FM	10-Aug-2024	0.25 hrs	91 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 SNP431-240806	E108	06-Aug-2024	09-Aug-2024	0.25 hrs	76 hrs	✗ EHTR-FM	10-Aug-2024	0.25 hrs	94 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE TB-240806	E108	06-Aug-2024	09-Aug-2024	0.25 hrs	76 hrs	✗ EHTR-FM	10-Aug-2024	0.25 hrs	94 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE BCEP-240806	E162-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE DUP-SNP4311-240806	E162-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE FB-BCEP-240806	E162-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4311-240806	E162-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP431-240806	E162-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4321A-240806	E162-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4323-240806	E162-L	06-Aug-2024	----	----	----		13-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
SNP435-240806	E162-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
TB-240806	E162-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
TRCK-240806	E162-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE										
BCEP-240806	E160-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE										
DUP-SNP4311-240806	E160-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE										
FB-BCEP-240806	E160-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE										
SNP4311-240806	E160-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE										
SNP431-240806	E160-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE										
SNP4321A-240806	E160-L	06-Aug-2024	----	----	----		13-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 SNP4323-240806	E160-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE SNP435-240806	E160-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE TB-240806	E160-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE TRCK-240806	E160-L	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE BCEP-240806	E121	06-Aug-2024	----	----	----		09-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-SNP4311-240806	E121	06-Aug-2024	----	----	----		09-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE FB-BCEP-240806	E121	06-Aug-2024	----	----	----		09-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4311-240806	E121	06-Aug-2024	----	----	----		09-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP431-240806	E121	06-Aug-2024	----	----	----		09-Aug-2024	3 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
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4321A-240806	E121	06-Aug-2024	----	----	----		09-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4323-240806	E121	06-Aug-2024	----	----	----		09-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP435-240806	E121	06-Aug-2024	----	----	----		09-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE TB-240806	E121	06-Aug-2024	----	----	----		09-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE TRCK-240806	E121	06-Aug-2024	----	----	----		09-Aug-2024	3 days	3 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) DUP-SNP4311-240806	E420.Cr-L	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	11-Aug-2024	180 days	5 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP431-240806	E420.Cr-L	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	11-Aug-2024	180 days	5 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) BCEP-240806	E420.Cr-L	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) FB-BCEP-240806	E420.Cr-L	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	12-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
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4311-240806	E420.Cr-L	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4321A-240806	E420.Cr-L	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4323-240806	E420.Cr-L	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP435-240806	E420.Cr-L	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TB-240806	E420.Cr-L	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TRCK-240806	E420.Cr-L	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) BCEP-240806	E508	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) DUP-SNP4311-240806	E508	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) FB-BCEP-240806	E508	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-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 Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4311-240806	E508	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP431-240806	E508	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4321A-240806	E508	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4323-240806	E508	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP435-240806	E508	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) TB-240806	E508	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) TRCK-240806	E508	06-Aug-2024	12-Aug-2024	28 days	6 days	✓	12-Aug-2024	28 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) BCEP-240806	E420	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) DUP-SNP4311-240806	E420	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	12-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
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
FB-BCEP-240806	E420	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
SNP4311-240806	E420	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
SNP431-240806	E420	06-Aug-2024	10-Aug-2024	180 days	4 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
SNP4321A-240806	E420	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
SNP4323-240806	E420	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
SNP435-240806	E420	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
TB-240806	E420	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
TRCK-240806	E420	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
SNP431-240806	E395	06-Aug-2024	----	----	----		13-Aug-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
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) TB-240806	E395	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) BCEP-240806	E611A	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) DUP-SNP4311-240806	E611A	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) FB-BCEP-240806	E611A	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP4311-240806	E611A	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP4321A-240806	E611A	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP435-240806	E611A	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP431-240806	E611A	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) TB-240806	E611A	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	8 days	✓

Legend & Qualifier Definitions

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

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

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	1587855	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1587601	2	40	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1587859	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1593171	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1587858	1	20	5.0	5.0	✓
Conductivity in Water	E100	1587856	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1587714	2	10	20.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1591086	2	26	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1587713	2	22	9.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1587598	2	33	6.0	5.0	✓
Fluoride in Water by IC	E235.F	1587857	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1587860	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1587861	1	20	5.0	5.0	✓
pH by Meter	E108	1587854	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1595337	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1587862	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1592577	1	19	5.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1587618	2	25	8.0	5.0	✓
Total Cyanide	E333	1588932	1	15	6.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1591389	2	22	9.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1587619	2	39	5.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1587599	2	23	8.7	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1587600	2	35	5.7	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1593685	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1588178	2	22	9.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1593172	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1587855	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1587601	2	40	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1587859	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1593171	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1594605	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1587858	1	20	5.0	5.0	✓
Conductivity in Water	E100	1587856	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1587714	2	10	20.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1591086	2	26	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							
Dissolved Metals in Water by CRC ICPMS	E421	1587713	2	22	9.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1587598	2	33	6.0	5.0	✓
Fluoride in Water by IC	E235.F	1587857	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1587860	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1587861	1	20	5.0	5.0	✓
pH by Meter	E108	1587854	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1595337	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1587862	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1592577	1	19	5.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1587618	2	25	8.0	5.0	✓
Total Cyanide	E333	1588932	1	15	6.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1591389	2	22	9.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1587619	2	39	5.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1587599	2	23	8.7	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1587600	2	35	5.7	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1593685	1	20	5.0	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1592576	1	19	5.2	5.0	✓
Turbidity by Nephelometry	E121	1588178	2	22	9.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1593172	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1587855	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1587601	2	40	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1587859	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1593171	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1594605	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1587858	1	20	5.0	5.0	✓
Conductivity in Water	E100	1587856	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1587714	2	10	20.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1591086	2	26	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1587713	2	22	9.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1587598	2	33	6.0	5.0	✓
Fluoride in Water by IC	E235.F	1587857	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1587860	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1587861	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1595337	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1587862	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1592577	1	19	5.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1587618	2	25	8.0	5.0	✓
Total Cyanide	E333	1588932	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*
Method Blanks (MB) - Continued							
Total Mercury in Water by CVAAS	E508	1591389	2	22	9.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1587619	2	39	5.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1587599	2	23	8.7	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1587600	2	35	5.7	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1593685	1	20	5.0	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1592576	1	19	5.2	5.0	✓
Turbidity by Nephelometry	E121	1588178	2	22	9.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1593172	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1587601	2	40	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1587859	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1593171	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1587858	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1587714	2	10	20.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1591086	2	26	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1587713	2	22	9.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1587598	2	33	6.0	5.0	✓
Fluoride in Water by IC	E235.F	1587857	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1587860	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1587861	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1595337	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1587862	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1587618	2	25	8.0	5.0	✓
Total Cyanide	E333	1588932	1	15	6.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1591389	2	22	9.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1587619	2	39	5.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1587599	2	23	8.7	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1587600	2	35	5.7	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1593685	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1593172	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.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
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.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
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.
Fluoride in Water by IC	E235.F 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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 Cyanide	E333 ALS Environmental - Vancouver	Water	ISO 14403 (mod)	Total or Strong Acid Dissociable (SAD) Cyanide is determined by Continuous Flow Analyzer (CFA) with in-line UV digestion followed by colourmetric analysis. Method Limitation: High levels of thiocyanate (SCN) may cause positive interference (up to 0.5% of SCN concentration).
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).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and 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 DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
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.
Reactive Silica by Colourimetry	E392 ALS Environmental - Vancouver	Water	APHA 4500-SiO_2 E (mod)	Silicate (molybdate-reactive silica) is determined by the molybdosilicate-heteropoly blue colourimetric method using a discrete analyzer. Method Limitation: Arsenic (5+) above 100 mg/L is a negative interference on this test

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Sulfide by Colourimetry (Automated Flow)	E395 ALS Environmental - Vancouver	Water	APHA 4500 -S E-Auto-Colorimetry	Sulfide is determined using the gas dialysis automated methlyene blue colourimetric method. Results expressed "as H2S" if reported represent the maximum possible H2S concentration based on the total sulfide concentration in the sample. The H2S calculation converts Total Sulphide as (S2-) and reports it as Total Sulphide as (H2S)
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 Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L 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.
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.
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L ALS Environmental - Vancouver	Water	APHA 3030 B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS
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
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then 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.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Vancouver	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
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).
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.
Fecal Coliforms in Water by MF	FC-MF	Water	APHA 9222D	See attached report.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	Taiga Environmental Laboratory - 4601 - 52nd Avenue P.O. BOX 1500 Yellowknife Northwest Territories Canada X1A 2R3			

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 for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401115**	Page	: 1 of 30
Amendment	: **2**		
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
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Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 07-Aug-2024 09:15
PO	: YEL218	Date Analysis Commenced	: 07-Aug-2024
C-O-C number	: ----	Issue Date	: 19-Aug-2024 16:44
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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*
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
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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: 1587854)											
KS2403125-003	Anonymous	pH	----	E108	0.10	pH units	8.47	8.47	0.00%	4%	----
Physical Tests (QC Lot: 1587855)											
KS2403125-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	240	241	0.208%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	11.6	11.4	1.74%	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	5.8	5.7	0.1	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	252	252	0.119%	20%	----
Physical Tests (QC Lot: 1587856)											
KS2403125-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	537	537	0.00%	10%	----
Physical Tests (QC Lot: 1588178)											
VA24B9733-001	Anonymous	Turbidity	----	E121	0.10	NTU	1.20	1.18	0.02	Diff <2x LOR	----
Physical Tests (QC Lot: 1588179)											
YL2401115-009	SNP435-240806	Turbidity	----	E121	0.10	NTU	2.18	2.11	3.26%	15%	----
Physical Tests (QC Lot: 1592577)											
YL2401128-006	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	140	156	16.0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1587600)											
VA24B9895-004	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.200	mg/L	11.4	11.6	1.95%	20%	----
Anions and Nutrients (QC Lot: 1587601)											
VA24B9895-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.250	mg/L	31.7	32.3	1.76%	20%	----
Anions and Nutrients (QC Lot: 1587857)											
KS2403125-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.065	0.063	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1587858)											
KS2403125-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1587859)											
KS2403125-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1587860)											
KS2403125-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	0.0054	0.0004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1587861)											
KS2403125-001	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: 1587862)											
KS2403125-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	0.42	0.42	0.0010	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1589561)											
FJ2402285-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0170	0.0171	0.00009	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1589565)											
FJ2402285-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0347	0.0339	2.36%	20%	----
Anions and Nutrients (QC Lot: 1595337)											
VA24C0292-008	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Cyanides (QC Lot: 1588932)											
VA24B9349-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1587598)											
YL2401112-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	4.74	4.84	0.10	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1587599)											
YL2401112-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	4.74	4.71	0.04	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1589558)											
FJ2402285-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	8.88	9.42	5.90%	20%	----
Organic / Inorganic Carbon (QC Lot: 1589564)											
VA24B9967-021	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.22	1.36	0.15	Diff <2x LOR	----
Total Sulfides (QC Lot: 1593685)											
CG2410956-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.0750	mg/L	1.65	1.58	4.56%	20%	----
Total Metals (QC Lot: 1587618)											
YL2401106-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Total Metals (QC Lot: 1587619)											
YL2401106-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0131	0.0124	0.0007	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00011	0.00010	0.000004	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00026	0.00024	0.00001	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.111	0.113	1.89%	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	0.713	0.732	2.60%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000250	mg/L	<0.0000200	<0.0000250	0.0000050	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	120	122	1.86%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000047	0.000049	0.000003	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1587619) - continued											
YL2401106-001	Anonymous	Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00012	0.00014	0.00002	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00123	0.00123	0.000006	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.010	0.010	0.00004	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	0.0198	0.0213	7.43%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	33.2	34.0	2.58%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00940	0.00977	3.85%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00693	0.00700	1.01%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00362	0.00368	0.00006	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	22.6	22.5	0.428%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.0223	0.0228	1.88%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000076	0.000064	0.000012	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	0.90	0.90	0.002	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	104	107	2.85%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	1.84	1.84	0.324%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	30.7	31.9	3.85%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00032	0.00028	0.00004	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000042	0.000043	0.0000008	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	0.00039	<0.00030	0.00009	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	0.00170	0.00172	1.07%	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: 1588643)											
YL2401115-006	TRCK-240806	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0287	0.0346	18.7%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00412	0.00423	2.58%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.121	0.122	0.998%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0353	0.0357	0.949%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	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: 1588643) - continued											
YL2401115-006	TRCK-240806	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	0.026	0.027	0.0007	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	59.7	60.5	1.29%	20%	----
		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	0.00239	0.00238	0.250%	20%	----
		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	0.057	0.058	0.001	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	0.0128	0.0136	6.11%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	34.0	34.9	2.57%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0149	0.0149	0.370%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000562	0.000567	0.831%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00063	0.00064	0.0000005	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	5.03	5.03	0.0733%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00274	0.00275	0.393%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000052	<0.000050	0.000002	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	1.16	1.17	1.11%	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	35.7	36.1	1.09%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.324	0.332	2.30%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	45.5	45.9	0.902%	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	0.00030	mg/L	0.00096	0.00103	0.00007	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	0.000895	0.000885	1.19%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	0.00054	0.00004	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	----

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: 1588644)											
YL2401115-006	TRCK-240806	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Total Metals (QC Lot: 1591389)											
VA24B9683-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1591390)											
YL2401115-009	SNP435-240806	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1587713)											
YL2401115-006	TRCK-240806	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0057	0.0056	0.00006	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00412	0.00412	0.0226%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.130	0.131	0.256%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0326	0.0330	1.20%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.027	0.027	0.0005	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	64.5	62.9	2.46%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00245	0.00243	0.512%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00022	<0.00020	0.00002	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.027	0.027	0.00008	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0136	0.0131	3.15%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	41.6	42.0	1.18%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00971	0.00983	1.25%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000546	0.000556	1.94%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00070	0.00071	0.000010	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	5.11	5.09	0.406%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00282	0.00284	0.734%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000063	0.000084	0.000021	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	1.12	1.08	2.89%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	38.8	38.3	1.26%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.330	0.331	0.265%	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*
Dissolved Metals (QC Lot: 1587713) - continued											
YL2401115-006	TRCK-240806	Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	46.8	47.6	1.50%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000936	0.000938	0.241%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1587714)											
YL2401115-006	TRCK-240806	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1588853)											
YL2401115-001	SNP431-240806	Aluminum, dissolved	7429-90-5	E421	0.0020	mg/L	0.0108	0.0105	0.0003	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00020	mg/L	0.172	0.175	1.63%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00020	mg/L	0.230	0.235	2.41%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00020	mg/L	0.0163	0.0167	2.31%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.020	mg/L	0.327	0.325	0.560%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000100	mg/L	0.0000218	0.0000161	0.0000057	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.100	mg/L	430	434	1.06%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000020	mg/L	0.000399	0.000412	3.16%	20%	----
		Chromium, dissolved	7440-47-3	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00020	mg/L	0.00438	0.00450	2.76%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00040	mg/L	0.00681	0.00681	0.0722%	20%	----
		Iron, dissolved	7439-89-6	E421	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0020	mg/L	0.0372	0.0354	4.91%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	104	104	0.0826%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00020	mg/L	0.00294	0.00292	0.526%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000100	mg/L	0.0170	0.0172	1.19%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00100	mg/L	0.00794	0.00792	0.00001	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1588853) - continued											
YL2401115-001	SNP431-240806	Phosphorus, dissolved	7723-14-0	E421	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.100	mg/L	13.0	12.6	2.87%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00040	mg/L	0.0117	0.0114	2.08%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000100	mg/L	0.000335	0.000333	0.000002	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.100	mg/L	0.664	0.653	0.011	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E421	0.000020	mg/L	0.000028	0.000028	0.0000004	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.100	mg/L	181	182	0.457%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00040	mg/L	4.32	4.41	2.13%	20%	----
		Sulfur, dissolved	7704-34-9	E421	1.00	mg/L	446	433	3.03%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000020	mg/L	0.000023	0.000022	0.0000008	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00020	mg/L	0.00027	0.00028	0.00001	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000020	mg/L	0.00252	0.00246	2.16%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0020	mg/L	<0.0020	<0.0020	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1588854)											
YL2401115-001	SNP431-240806	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00020	mg/L	0.00023	0.00026	0.00003	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1591086)											
VA24B9369-010	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1591087)											
YL2401115-005	DUP-SNP4311-240806	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1593171)											
VA24B9583-001	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	----
		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	<0.50	<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: 1593172)											

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*
Hydrocarbons (QC Lot: 1593172) - continued											
VA24B9583-001	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: 1587855)						
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: 1587856)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1588178)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1588179)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1592576)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1592577)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1587600)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1587601)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1587857)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1587858)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1587859)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1587860)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1587861)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1587862)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1589561)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1589561) - continued						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1589565)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1595337)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Cyanides (QCLot: 1588932)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1587598)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1587599)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1589558)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1589564)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1593685)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1587618)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1587619)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1587619) - continued						
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	----
Total Metals (QCLot: 1588643)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1588643) - continued						
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	----
Total Metals (QCLot: 1588644)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1591389)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1591390)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1587713)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1587713) - continued						
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1587714)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1588853)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1588853) - continued						
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1588854)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1591086)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1591087)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1593171)						
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	----
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: 1593172)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1594605)						
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: 1587854)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1587855)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	97.2	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	101	85.0	115	----
Physical Tests (QCLot: 1587856)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	98.9	90.0	110	----
Physical Tests (QCLot: 1588178)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1588179)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1592576)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1592577)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1587600)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	93.6	80.0	120	----
Anions and Nutrients (QCLot: 1587601)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	105	85.0	115	----
Anions and Nutrients (QCLot: 1587857)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	97.7	90.0	110	----
Anions and Nutrients (QCLot: 1587858)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1587859)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	108	85.0	115	----
Anions and Nutrients (QCLot: 1587860)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1587861)									
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: 1587862)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1589561)									

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: 1589561) - continued									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1589565)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	----		80.0	120	----
Anions and Nutrients (QCLot: 1595337)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	97.9	85.0	115	----
Cyanides (QCLot: 1588932)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	99.8	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1587598)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	97.6	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1587599)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	98.6	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1589558)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	101	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1589564)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Total Sulfides (QCLot: 1593685)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	100	80.0	120	----
Total Metals (QCLot: 1587618)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	93.9	80.0	120	----
Total Metals (QCLot: 1587619)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	98.5	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	100	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	100	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	99.2	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	100	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	93.1	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	97.7	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	98.2	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	99.1	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	93.9	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	94.8	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: 1587619) - continued									
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	94.9	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	97.4	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	97.8	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	97.3	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	95.1	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	95.1	80.0	120	----
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	95.4	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	102	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	98.7	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	95.5	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	94.9	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	103	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	93.5	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	99.9	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	94.3	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	96.6	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	95.6	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	97.1	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	94.1	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	94.5	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	96.8	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	95.1	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.7	80.0	120	----
Total Metals (QCLot: 1588643)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	101	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	101	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	105	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	96.0	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 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: 1588643) - continued									
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.7	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	99.4	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	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.9	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	98.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	98.0	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	97.6	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	95.6	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	98.5	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	96.8	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	98.8	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	106	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	98.1	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	91.3	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	98.4	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	97.7	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	97.1	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	95.3	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	101	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	93.9	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	98.4	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	94.4	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	95.3	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	96.4	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	96.9	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	90.6	80.0	120	----
Total Metals (QCLot: 1588644)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Total Metals (QCLot: 1591389)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	104	80.0	120	----
Total Metals (QCLot: 1591390)									

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: 1591390) - continued									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	102	80.0	120	----
Dissolved Metals (QCLot: 1587713)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	103	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	94.7	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	108	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	99.6	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	98.0	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	101	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	94.0	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	98.8	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	92.7	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	100	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	94.2	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	103	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	93.2	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	98.2	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	99.4	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	112	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	102	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	99.0	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	106	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	89.8	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	104	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	96.9	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	98.2	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	97.2	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	106	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	95.4	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	93.9	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
Dissolved Metals (QCLot: 1587713) - continued									
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	98.3	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	101	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	94.8	80.0	120	----
Dissolved Metals (QCLot: 1587714)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Dissolved Metals (QCLot: 1588853)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	101	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	99.5	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	101	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	96.3	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	102	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	101	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	93.9	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	99.2	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	99.1	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	98.0	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	98.1	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	96.2	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	97.0	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	98.0	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	99.7	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	98.3	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	95.4	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	99.8	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	96.6	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	99.8	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	93.8	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	95.1	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	103	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	92.8	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	96.2	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
Dissolved Metals (QCLot: 1588853) - continued									
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	102	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	98.3	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	101	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	96.1	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	96.9	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	94.1	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	96.2	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	96.8	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.2	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	97.0	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	94.8	80.0	120	----
Dissolved Metals (QCLot: 1588854)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	98.1	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	102	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	102	80.0	120	----
Volatile Organic Compounds (QCLot: 1593171)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	117	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	116	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	116	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	119	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	117	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	115	70.0	130	----
Hydrocarbons (QCLot: 1593172)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	81.4	70.0	130	----
Hydrocarbons (QCLot: 1594605)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	109	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	103	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	111	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: 1587600)										
VA24B9895-005	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0458 mg/L	0.05 mg/L	91.7	70.0	130	----
Anions and Nutrients (QCLot: 1587601)										
VA24B9895-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1587857)										
KS2403125-002	Anonymous	Fluoride	16984-48-8	E235.F	4.85 mg/L	5 mg/L	97.0	75.0	125	----
Anions and Nutrients (QCLot: 1587858)										
KS2403125-002	Anonymous	Chloride	16887-00-6	E235.Cl	491 mg/L	500 mg/L	98.2	75.0	125	----
Anions and Nutrients (QCLot: 1587859)										
KS2403125-002	Anonymous	Bromide	24959-67-9	E235.Br-L	2.57 mg/L	2.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1587860)										
KS2403125-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	12.3 mg/L	12.5 mg/L	98.7	75.0	125	----
Anions and Nutrients (QCLot: 1587861)										
KS2403125-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	2.52 mg/L	2.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1587862)										
KS2403125-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	491 mg/L	500 mg/L	98.3	75.0	125	----
Anions and Nutrients (QCLot: 1589561)										
FJ2402285-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.103 mg/L	0.1 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1589565)										
FJ2402285-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1595337)										
VA24C0292-009	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.3 mg/L	10 mg/L	103	75.0	125	----
Cyanides (QCLot: 1588932)										
VA24B9349-002	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.253 mg/L	0.25 mg/L	101	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1587598)										
YL2401112-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.95 mg/L	5 mg/L	99.0	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1587599)										
YL2401112-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.14 mg/L	5 mg/L	103	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1589558)										
FJ2402285-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.43 mg/L	5 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
Organic / Inorganic Carbon (QCLot: 1589564)										
VA24B9967-022	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.26 mg/L	5 mg/L	105	70.0	130	----
Total Sulfides (QCLot: 1593685)										
CG2410956-002	Anonymous	Sulfide, total (as S)	18496-25-8	E395	1.99 mg/L	2 mg/L	99.5	75.0	125	----
Total Metals (QCLot: 1587618)										
YL2401106-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0370 mg/L	0.04 mg/L	92.6	70.0	130	----
Total Metals (QCLot: 1587619)										
YL2401106-002	Anonymous	Aluminum, total	7429-90-5	E420	0.184 mg/L	0.2 mg/L	92.1	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0177 mg/L	0.02 mg/L	88.7	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0185 mg/L	0.02 mg/L	92.7	70.0	130	----
		Barium, total	7440-39-3	E420	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0359 mg/L	0.04 mg/L	89.7	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00958 mg/L	0.01 mg/L	95.8	70.0	130	----
		Boron, total	7440-42-8	E420	0.090 mg/L	0.1 mg/L	90.0	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00366 mg/L	0.004 mg/L	91.5	70.0	130	----
		Calcium, total	7440-70-2	E420	3.64 mg/L	4 mg/L	90.9	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00918 mg/L	0.01 mg/L	91.8	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0370 mg/L	0.04 mg/L	92.6	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	0.0184 mg/L	0.02 mg/L	92.2	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	0.0190 mg/L	0.02 mg/L	94.9	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0891 mg/L	0.1 mg/L	89.1	70.0	130	----
		Magnesium, total	7439-95-4	E420	0.911 mg/L	1 mg/L	91.1	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0181 mg/L	0.02 mg/L	90.5	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	0.0372 mg/L	0.04 mg/L	92.9	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.15 mg/L	10 mg/L	91.5	70.0	130	----
		Potassium, total	7440-09-7	E420	3.70 mg/L	4 mg/L	92.6	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0364 mg/L	0.04 mg/L	90.9	70.0	130	----
		Silicon, total	7440-21-3	E420	9.19 mg/L	10 mg/L	91.9	70.0	130	----
		Silver, total	7440-22-4	E420	0.00379 mg/L	0.004 mg/L	94.8	70.0	130	----
		Sodium, total	7440-23-5	E420	1.83 mg/L	2 mg/L	91.7	70.0	130	----
		Strontium, total	7440-24-6	E420	0.0188 mg/L	0.02 mg/L	94.0	70.0	130	----
		Sulfur, total	7704-34-9	E420	17.6 mg/L	20 mg/L	87.8	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0383 mg/L	0.04 mg/L	95.7	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00364 mg/L	0.004 mg/L	91.1	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Tin, total	7440-31-5	E420	0.0178 mg/L	0.02 mg/L	89.3	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0342 mg/L	0.04 mg/L	85.5	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0178 mg/L	0.02 mg/L	88.9	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00382 mg/L	0.004 mg/L	95.6	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0908 mg/L	0.1 mg/L	90.8	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: 1587619) - continued										
YL2401106-002	Anonymous	Zinc, total	7440-66-6	E420	0.371 mg/L	0.4 mg/L	92.9	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0373 mg/L	0.04 mg/L	93.2	70.0	130	----
Total Metals (QCLot: 1588643)										
YL2401115-007	SNP4321A-240806	Aluminum, total	7429-90-5	E420	1.80 mg/L	2 mg/L	90.1	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	0.193 mg/L	0.2 mg/L	96.6	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.353 mg/L	0.4 mg/L	88.2	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0946 mg/L	0.1 mg/L	94.6	70.0	130	----
		Boron, total	7440-42-8	E420	0.892 mg/L	1 mg/L	89.2	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.0384 mg/L	0.04 mg/L	96.1	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0949 mg/L	0.1 mg/L	94.9	70.0	130	----
		Chromium, total	7440-47-3	E420	0.367 mg/L	0.4 mg/L	91.8	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.182 mg/L	0.2 mg/L	90.9	70.0	130	----
		Copper, total	7440-50-8	E420	0.177 mg/L	0.2 mg/L	88.6	70.0	130	----
		Iron, total	7439-89-6	E420	17.6 mg/L	20 mg/L	87.9	70.0	130	----
		Lead, total	7439-92-1	E420	0.188 mg/L	0.2 mg/L	94.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.906 mg/L	1 mg/L	90.6	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	0.188 mg/L	0.2 mg/L	93.8	70.0	130	----
		Nickel, total	7440-02-0	E420	0.357 mg/L	0.4 mg/L	89.3	70.0	130	----
		Phosphorus, total	7723-14-0	E420	99.3 mg/L	100 mg/L	99.3	70.0	130	----
		Potassium, total	7440-09-7	E420	37.6 mg/L	40 mg/L	93.9	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.185 mg/L	0.2 mg/L	92.7	70.0	130	----
		Selenium, total	7782-49-2	E420	0.374 mg/L	0.4 mg/L	93.4	70.0	130	----
		Silicon, total	7440-21-3	E420	92.4 mg/L	100 mg/L	92.4	70.0	130	----
		Silver, total	7440-22-4	E420	0.0371 mg/L	0.04 mg/L	92.9	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	0.374 mg/L	0.4 mg/L	93.4	70.0	130	----
		Thallium, total	7440-28-0	E420	0.0370 mg/L	0.04 mg/L	92.4	70.0	130	----
		Thorium, total	7440-29-1	E420	0.198 mg/L	0.2 mg/L	99.1	70.0	130	----
		Tin, total	7440-31-5	E420	0.189 mg/L	0.2 mg/L	94.6	70.0	130	----
		Titanium, total	7440-32-6	E420	0.357 mg/L	0.4 mg/L	89.4	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.186 mg/L	0.2 mg/L	93.0	70.0	130	----
		Uranium, total	7440-61-1	E420	0.0378 mg/L	0.04 mg/L	94.6	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.929 mg/L	1 mg/L	92.9	70.0	130	----
		Zinc, total	7440-66-6	E420	3.61 mg/L	4 mg/L	90.2	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.380 mg/L	0.4 mg/L	94.9	70.0	130	----
Total Metals (QCLot: 1588644)										

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: 1588644) - continued										
YL2401115-007	SNP4321A-240806	Chromium, total	7440-47-3	E420.Cr-L	0.367 mg/L	0.4 mg/L	91.8	70.0	130	----
Total Metals (QCLot: 1591389)										
VA24B9683-002	Anonymous	Mercury, total	7439-97-6	E508	0.000103 mg/L	0 mg/L	103	70.0	130	----
Total Metals (QCLot: 1591390)										
YL2401115-010	TB-240806	Mercury, total	7439-97-6	E508	0.0000987 mg/L	0 mg/L	98.7	70.0	130	----
Dissolved Metals (QCLot: 1587713)										
YL2401115-007	SNP4321A-240806	Aluminum, dissolved	7429-90-5	E421	3.97 mg/L	4 mg/L	99.2	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	ND mg/L	----	ND	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	ND mg/L	----	ND	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.378 mg/L	0.4 mg/L	94.5	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.768 mg/L	0.8 mg/L	96.0	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.189 mg/L	0.2 mg/L	94.5	70.0	130	----
		Boron, dissolved	7440-42-8	E421	1.85 mg/L	2 mg/L	92.6	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.0776 mg/L	0.08 mg/L	97.0	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.185 mg/L	0.2 mg/L	92.6	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.783 mg/L	0.8 mg/L	97.9	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.394 mg/L	0.4 mg/L	98.6	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.385 mg/L	0.4 mg/L	96.3	70.0	130	----
		Iron, dissolved	7439-89-6	E421	37.7 mg/L	40 mg/L	94.3	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.389 mg/L	0.4 mg/L	97.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	1.86 mg/L	2 mg/L	92.9	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.387 mg/L	0.4 mg/L	96.8	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.784 mg/L	0.8 mg/L	98.0	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	207 mg/L	200 mg/L	104	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	78.0 mg/L	80 mg/L	97.4	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.412 mg/L	0.4 mg/L	103	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.758 mg/L	0.8 mg/L	94.8	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	188 mg/L	200 mg/L	94.2	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.0754 mg/L	0.08 mg/L	94.2	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	380 mg/L	400 mg/L	94.9	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.781 mg/L	0.8 mg/L	97.6	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.0764 mg/L	0.08 mg/L	95.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.380 mg/L	0.4 mg/L	95.0	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.369 mg/L	0.4 mg/L	92.2	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.786 mg/L	0.8 mg/L	98.3	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.385 mg/L	0.4 mg/L	96.4	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.0766 mg/L	0.08 mg/L	95.8	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	1.99 mg/L	2 mg/L	99.6	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
Dissolved Metals (QCLot: 1587713) - continued										
YL2401115-007	SNP4321A-240806	Zinc, dissolved	7440-66-6	E421	8.12 mg/L	8 mg/L	101	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.780 mg/L	0.8 mg/L	97.5	70.0	130	----
Dissolved Metals (QCLot: 1587714)										
YL2401115-007	SNP4321A-240806	Chromium, dissolved	7440-47-3	E421.Cr-L	0.783 mg/L	0.8 mg/L	97.9	70.0	130	----
Dissolved Metals (QCLot: 1588853)										
YL2401115-002	BCEP-240806	Aluminum, dissolved	7429-90-5	E421	0.380 mg/L	0.4 mg/L	94.9	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	ND mg/L	----	ND	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	ND mg/L	----	ND	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.0379 mg/L	0.04 mg/L	94.6	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0724 mg/L	0.08 mg/L	90.5	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0171 mg/L	0.02 mg/L	85.7	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00751 mg/L	0.008 mg/L	93.9	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0188 mg/L	0.02 mg/L	94.1	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0777 mg/L	0.08 mg/L	97.1	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0348 mg/L	0.04 mg/L	87.0	70.0	130	----
		Iron, dissolved	7439-89-6	E421	3.73 mg/L	4 mg/L	93.3	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0357 mg/L	0.04 mg/L	89.3	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.177 mg/L	0.2 mg/L	88.7	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0388 mg/L	0.04 mg/L	96.9	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0723 mg/L	0.08 mg/L	90.4	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	20.6 mg/L	20 mg/L	103	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0804 mg/L	0.08 mg/L	100	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	19.1 mg/L	20 mg/L	95.6	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00738 mg/L	0.008 mg/L	92.3	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0793 mg/L	0.08 mg/L	99.2	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00700 mg/L	0.008 mg/L	87.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0388 mg/L	0.04 mg/L	96.9	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0368 mg/L	0.04 mg/L	92.1	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0786 mg/L	0.08 mg/L	98.2	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00716 mg/L	0.008 mg/L	89.4	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.199 mg/L	0.2 mg/L	99.7	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.740 mg/L	0.8 mg/L	92.5	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
Dissolved Metals (QCLot: 1588853) - continued										
YL2401115-002	BCEP-240806	Zirconium, dissolved	7440-67-7	E421	0.0767 mg/L	0.08 mg/L	95.9	70.0	130	----
Dissolved Metals (QCLot: 1588854)										
YL2401115-002	BCEP-240806	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0777 mg/L	0.08 mg/L	97.1	70.0	130	----
Dissolved Metals (QCLot: 1591086)										
VA24B9369-011	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000990 mg/L	0 mg/L	99.0	70.0	130	----
Dissolved Metals (QCLot: 1591087)										
YL2401115-006	TRCK-240806	Mercury, dissolved	7439-97-6	E509	0.0000928 mg/L	0 mg/L	92.8	70.0	130	----
Volatile Organic Compounds (QCLot: 1593171)										
VA24B9583-001	Anonymous	Benzene	71-43-2	E611A	110 µg/L	100 µg/L	110	60.0	140	----
		Ethylbenzene	100-41-4	E611A	112 µg/L	100 µg/L	112	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	113 µg/L	100 µg/L	113	60.0	140	----
		Styrene	100-42-5	E611A	110 µg/L	100 µg/L	110	60.0	140	----
		Toluene	108-88-3	E611A	111 µg/L	100 µg/L	111	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	227 µg/L	200 µg/L	113	60.0	140	----
		Xylene, o-	95-47-6	E611A	110 µg/L	100 µg/L	110	60.0	140	----
Hydrocarbons (QCLot: 1593172)										
VA24B9583-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	4750 µg/L	6310 µg/L	75.4	60.0	140	----

Taiga Batch No.:
241185

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

- FINAL REPORT -

Prepared For: ALS Environmental

Address: 314 Old Airport Road
Unit 116
Yellowknife,NT
X1A 2R1

Attn: **Oliver Gregg** **Facsimile:**

Final report has been reviewed and approved by:

Bradley Koswan
A/Lab Manager

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: 14-Aug-24
Print Date: *14-Aug-24*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 241185

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401115-001 SNP431-240806 **Taiga Sample ID:** 001

Client Project:
Sample Type: Water
Received Date: 07-Aug-24
Sampling Date: 06-Aug-27
Sampling Time: 11:45
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	07-Aug-24	TEL017	

ReportDate: 14-Aug-24
Print Date: *14-Aug-24*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 241185

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401115-007 SNP4321A-240806 **Taiga Sample ID:** 002

Client Project:
Sample Type: Water
Received Date: 07-Aug-24
Sampling Date: 06-Aug-27
Sampling Time: 17:05
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	07-Aug-24	TEL017	

ReportDate: 14-Aug-24
Print Date: *14-Aug-24*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 241185

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401115-010 TB-240806 **Taiga Sample ID:** 003

Client Project:
Sample Type: Water
Received Date: 07-Aug-24
Sampling Date: 06-Aug-27
Sampling Time: 11:45
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	07-Aug-24	TEL017	

ReportDate: 14-Aug-24
Print Date: *14-Aug-24*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: **241185**

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **YL2401115-010 TB-240806** **Taiga Sample ID:** **003**

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater
EPA - United States Environmental Protection Agency

ReportDate: 14-Aug-24
Print Date: *14-Aug-24*

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 680-8967
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@persons.com
giantdata@ircaano-cirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Harda@pwgsc-tpsgc.gc.ca
Robert.makohoniuk@persons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife, NT X1A 0G5
Telephone: (867) 680-8967
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:																																			
√ = Field Filtered:																																			
√ = Standard TAT:																																			
√ = 1-Day Rush:																																			
Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Radium-226																	
SNP431-240806	SNP 43-1	6-Aug-24	11:45	Water			G	15	X	X	X	X		X	X	X																			
BCEP-240806	Baker Creek Exposure Point	6-Aug-24	14:40	Water			G	12	X	X	X	X	X																						
FB-BCEP-240806	Baker Creek Exposure Point	6-Aug-24	14:40	Water			G	12	X	X	X	X	X																						
SNP4311-240806	SNP 43-11	6-Aug-24	15:47	Water			G	12	X	X	X	X	X																						
DUP-SNP4311-240806	SNP 43-11	6-Aug-24	15:47	Water			G	12	X	X	X	X	X																						
TRCK-240806	TR-CK	6-Aug-24	16:16	Water			G	8	X	X	X		X																						
SNP4321A-240806	SNP 43-21A	6-Aug-24	17:05	Water		HIGH ARSENIC	C	13	X	X	X	X			X																				
SNP4323-240806	SNP 43-23	6-Aug-24	17:47	Water			G	8	X	X	X		X																						
SNP435-240806	SNP 43-5	6-Aug-24	18:10	Water			G	12	X	X	X	X	X																						
TB-240806	TRIP BLANK	6-Aug-24	-	Water			G	14	X	X	X	X	X	X	X	X																			

Environmental Division
Yellowknife
Work Order Reference
YL2401115
Telephone : +1 867 873 5593

Relinquished by (Sampler Signature): Keenan Kakfwi — T.Kakfwi — **Date/Time:** 2024-August-07 9:15 — **Company:** SLR Consulting

Received by (Name):	Received by (Signature)	Company: ALS	Sample Receipt Temperature (deg. C):	SAMPLE CONDITION (lab use only) Samples Received in Good Condition? Yes No (If no, provide details.)	On cooling media: Y N
Simon Arlooktoo		AUG 07/24	3.6		

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CERTIFICATE OF ANALYSIS

Work Order	: **YL2401117**	Page	: 1 of 3
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 07-Aug-2024 09:15
PO	: YEL218	Date Analysis Commenced	: 26-Aug-2024
C-O-C number	: ----	Issue Date	: 30-Aug-2024 15:03
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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

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*
Oliver Gregg	Client Services Supervisor	External Subcontracting, Saskatoon, Saskatchewan

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*
Bq/L	becquerels 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.

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-240806	BCEP-240806	FB-BCEP-240806	SNP4311-240806	DUP-SNP4311-240806
				Client sampling date / time	06-Aug-2024 11:45	06-Aug-2024 14:40	06-Aug-2024 14:40	06-Aug-2024 15:47	06-Aug-2024 15:47
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401117-001	YL2401117-002	YL2401117-003	YL2401117-004	YL2401117-005
					Result	Result	Result	Result	Result
Radiological Parameters									
Radium-226	13982-63-3	Ra-226/2I	0.005	Bq/L	<0.005	----	<0.005	<0.005	<0.005
Radium-226	13982-63-3	Ra-226/2I	0.006	Bq/L	----	0.006	----	----	----

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	TB-240806	----	----	----	----
				Client sampling date / time	06-Aug-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401117-006	--------	--------	--------	--------
					Result	----	----	----	----
Radiological Parameters									
Radium-226	13982-63-3	Ra-226/2I	0.005	Bq/L	<0.005	----	----	----	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401117**	Page	: 1 of 4
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 07-Aug-2024 09:15
PO	: YEL218	Issue Date	: 30-Aug-2024 15:04
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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 Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

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
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid) FB-BCEP-240806	Ra-226	06-Aug-2024	----	----	----		26-Aug-2024	----	20 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid) SNP4311-240806	Ra-226	06-Aug-2024	----	----	----		26-Aug-2024	----	20 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid) SNP431-240806	Ra-226	06-Aug-2024	----	----	----		26-Aug-2024	----	20 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE TB-240806	Ra-226	06-Aug-2024	----	----	----		26-Aug-2024	----	20 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid) BCEP-240806	Ra-226	06-Aug-2024	----	----	----		28-Aug-2024	----	22 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid) DUP-SNP4311-240806	Ra-226	06-Aug-2024	----	----	----		28-Aug-2024	----	22 days	

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

- **No Quality Control data available for this section.**

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
Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)	Ra-226 Saskatchewan Research Council - 143 - 111 Research Drive Saskatoon Saskatchewan Canada S7N 3R2	Water		See attached report.

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QUALITY CONTROL REPORT

Work Order	: **YL2401117**	Page	: 1 of 2
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 07-Aug-2024 09:15
PO	: YEL218	Date Analysis Commenced	: 26-Aug-2024
C-O-C number	: ----	Issue Date	: 30-Aug-2024 15:03
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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:

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*
Oliver Gregg	Client Services Supervisor	Saskatchewan Research Council External Subcontracting, Saskatoon, Saskatchewan

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.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

Test Report

SRC Group # 2024-10000

Aug 30, 2024

ALS
314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Date Samples Received: Aug-13-2024 Client P.O.: YL2401117

All results have been reviewed and approved by a Qualified Person in accordance with the Saskatchewan Environmental Code, Corrective Action Plan Chapter, for the purposes of certifying a laboratory analysis

Results from Lab Section 4 approved by Smith-Windsor, Jenna

Test methods and data are validated by the laboratory's Quality Assurance Program.

Routine methods follow recognized procedures from sources such as
- -Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF
- -Environment Canada
- -US EPA
- -CANMET

The results reported relate only to the test samples as provided by the client. Results apply to the sample as received, unless otherwise indicated.

Data marked as "by Client" has been provided by the client and may affect the validity of results.

Samples will be kept for 30 days after the final report is sent. Please contact the lab if you have any special requirements.

Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Analytes denoted with * are accredited by CALA to ISO/IEC 17025:2017.

Additional information is available upon request.

This is a final report.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10000

Aug 30, 2024

ALS

314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Sample #:	**2024027645**	Client PO #:	**YL2401117**
Date Sampled:	**Aug 06, 2024**	Date Received:	**Aug 13, 2024**
Sample Matrix:	**WATER**		
Description:	**08/06/2024 12:45 SNP431-240806 YL2401117-001**		

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 5.3 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10000

Aug 30, 2024

ALS

Sample #: **2024027646**
Date Sampled: **Aug 06, 2024**
Sample Matrix: **WATER**
Description: **08/06/2024 15:40 BCEP-240806 YL2401117-002**

Client PO #: **YL2401117**
Date Received: **Aug 13, 2024**

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	0.006

The temperature of the cooler was 5.3 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10000

Aug 30, 2024

ALS

Sample #:	**2024027647**	Client PO #:	**YL2401117**
Date Sampled:	**Aug 06, 2024**	Date Received:	**Aug 13, 2024**
Sample Matrix:	**WATER**		
Description:	**08/06/2024 15:40 FB-BCEP-240806 YL2401117-003**		

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 5.3 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10000

Aug 30, 2024

ALS

Sample #:	**2024027648**	Client PO #:	**YL2401117**
Date Sampled:	**Aug 06, 2024**	Date Received:	**Aug 13, 2024**
Sample Matrix:	**WATER**		
Description:	**08/06/2024 16:47 SNP4311-240806 YL2401117-004**		

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 5.3 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10000

Aug 30, 2024

ALS

Sample #:	**2024027649**	Client PO #:	**YL2401117**
Date Sampled:	**Aug 06, 2024**	Date Received:	**Aug 13, 2024**
Sample Matrix:	**WATER**		
Description:	**08/06/2024 16:47 DUP-SNP4311-240806 YL2401117-005**		

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 5.3 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10000

Aug 30, 2024

ALS

Sample #: **2024027650**
Date Sampled: **Aug 06, 2024**
Sample Matrix: **WATER**
Description: **08/06/2024 12:45 TB-240806 YL2401117-006**

Client PO #: **YL2401117**
Date Received: **Aug 13, 2024**

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The sample for radionuclides was acidified in the lab. Due to the time lapse from sampling to acidification, we can not guarantee that the results accurately reflect the concentration at the time of sampling.

The temperature of the cooler was 5.3 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10000

Aug 30, 2024

ALS

Analyte Methods

Name	Units	Method
Radium-226	Bq/L	Rad-105

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife NT, X1A 0G5
Phone: (867) 669-6957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@nrcan-rncan.gc.ca
mikayla.donovan@wsp.com
dfo.GiantMine_ALS@wsp.com
Priya.Handa@dfo-mpo.gc.ca
Reuben.Makohoriuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original Signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife, NT X1A 0G5
Telephone: (867) 669-6957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:			As required - Marked on bottle																
√ = Field Filtered:			As required - Marked on bottle																
√ = Standard TAT:			√	√	√	√	√	√	√	√	√								
√ = 1-Day Rush:																			
Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Radium-226		
SNP431-240806	SNP 43-1	6-Aug-24	11:45	Water			G	1									X		
BCEP-240806	Baker Creek Exposure Point	6-Aug-24	14:40	Water			G	1									X		
FB-BCEP-240806	Baker Creek Exposure Point	6-Aug-24	14:40	Water			G	1									X		
SNP4311-240806	SNP 43-11	6-Aug-24	15:47	Water			G	1									X		
DUP-SNP4311-240806	SNP 43-11	6-Aug-24	15:47	Water			G	1									X		
TB-240806	Trip Blank	6-Aug-24	-	Water			G	1									X		

Environmental Division
Yellowknife
Work Order Reference
YL2401117

Telephone : +1 867 873 5593

Relinquished by (Sampler Signature): Keenan Kakfwi
Date/Time: 2024-August-07 9:15
Company: SLR Consulting

Received by (Name): Simon Arlooktoo
Received by (Signature)
Company: ALS
AUG 07/24

Sample Receipt Temperature (deg. C): 3.6

SAMPLE CONDITION (lab use only)
Samples Received in Good Condition? Yes / No (If no, provide details.)
On cooling media: Y N

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401169**	Page	: 1 of 17
Amendment	: **1**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 14-Aug-2024 09:10
PO	: YEL218	Date Analysis Commenced	: 16-Aug-2024
C-O-C number	: ----	Issue Date	: 30-Aug-2024 11:48
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, 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
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
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*
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).*
RRV	*Reported result verified by repeat analysis.*

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	PLA-240813	DUP-PLA-240813	TRCK-240813	NWTCA-240813	NPTCA-240813
Client sampling date / time					13-Aug-2024 14:40	13-Aug-2024 14:40	13-Aug-2024 16:06	13-Aug-2024 16:23	13-Aug-2024 16:57
					YL2401169-001	YL2401169-002	YL2401169-003	YL2401169-004	YL2401169-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	116	115	149	163	82.7
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	3.6	3.6	2.6	4.8	<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	1.8	1.8	1.3	2.4	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	120	119	151	168	82.7
Conductivity	----	E100/VA	1.0	µS/cm	293	294	819	3310	2730
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	155	151	346	1480	1430
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	152	146	336	1520	1460
pH	----	E108/VA	0.10	pH units	8.55	8.54	8.27	8.36	8.14
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	241	245	664	3300	2870
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	2.4	1.9	2.2	2.5	3.5
Turbidity	----	E121/VA	0.10	NTU	1.32	1.30	1.07	0.79	1.35
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0257	0.0221	0.0298	0.0873	0.153
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	<0.050	0.771	7.02	3.15
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	1.25	1.24	89.4	540	253
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.142	0.150	<0.100 DLDS	<0.400 DLDS	<0.400 DLDS
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0250 DLDS	0.455	0.432
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0051	<0.0051	<0.0255	0.455	0.432
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0050 DLDS	<0.0200 DLDS	<0.0200 DLDS
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	----	----	0.0472	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	<0.50	<0.50	3.69	11.4	1.93
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	36.8	36.8	132	952	1210
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	22.7	25.3	31.2	7.88	9.52
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	22.4	23.1	29.2	8.98	9.05
Ion Balance									

Analytical Results

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

				Client sample ID	PLA-240813	DUP-PLA-240813	TRCK-240813	NWTCA-240813	NPTCA-240813
				Client sampling date / time	13-Aug-2024 14:40	13-Aug-2024 14:40	13-Aug-2024 16:06	13-Aug-2024 16:23	13-Aug-2024 16:57
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401169-001	YL2401169-002	YL2401169-003	YL2401169-004	YL2401169-005
					Result	Result	Result	Result	Result
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	3.21	3.19	8.30	38.5	34.0
Cation sum	----	EC101/VA	0.10	meq/L	3.44	3.35	8.78	38.9	34.0
Ion balance (APHA)	----	EC101/VA	0.01	%	3.46	2.45	2.81	0.52	0.0
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0237	0.0233	0.0182	<0.0600 DLA	0.0422
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.0429	0.0404	0.00415	0.814	0.543
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	1.35	1.32	0.142	24.4	5.66
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0456	0.0435	0.0392	0.0452	0.0171
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000400 DLA	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.00100 DLA	<0.000250 DLA
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.029	0.028	0.032	0.392	0.300
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	0.000128	0.000156
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	28.4	27.6	70.2	427	398
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000027	0.000028	<0.000010	0.000615	0.000175
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00010	0.00012	<0.00200 DLA	<0.00050 DLA
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.0100 DLA	<0.00250 DLA
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	<0.00010	0.00236	0.0109	0.00746
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.0100 DLA	0.00882
Iron, total	7439-89-6	E420/VA	0.010	mg/L	<0.010	<0.010	0.097	<0.200 DLA	0.096
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	0.00334	0.00260
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0090	0.0088	0.0147	0.0386	0.0265
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	19.6	18.7	39.1	110	112
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0511	0.0501	0.0431	0.0513	0.0270
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	0.000164	0.000162	0.000520	0.0211	0.0330
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	<0.00050	0.00067	0.0222	0.00873
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.050	<0.050	<1.00 DLA	<0.250 DLA
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	4.16	4.17	5.66	13.4	15.1
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00656	0.00637	0.00293	0.0115	0.0128
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000073	0.000100	0.000057	<0.00100 DLA	0.000860

Analytical Results

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

				Client sample ID	PLA-240813	DUP-PLA-240813	TRCK-240813	NWTCA-240813	NPTCA-240813
				Client sampling date / time	13-Aug-2024 14:40	13-Aug-2024 14:40	13-Aug-2024 16:06	13-Aug-2024 16:23	13-Aug-2024 16:57
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401169-001	YL2401169-002	YL2401169-003	YL2401169-004	YL2401169-005
					Result	Result	Result	Result	Result
Total Metals									
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	0.15	0.16	2.00	6.08	1.10
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000200 DLA	<0.000050 DLA
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	5.27	5.06	40.0	207	116
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0917	0.0864	0.391	5.43	2.22
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	14.6	15.1	54.8	363	478
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	0.00023	0.00029	<0.00400 DLA	<0.00100 DLA
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000200 DLA	0.000091
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00200 DLA	<0.00050 DLA
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00200 DLA	0.00127
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	<0.00030	0.00073	<0.00600 DLA	<0.00150 DLA
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00200 DLA	0.00440
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00228	0.00219	0.000767	0.00615	0.00472
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.0100 DLA	<0.00250 DLA
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0600 DLA	<0.0150 DLA
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00400 DLA	<0.00100 DLA
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0210	0.0211	0.0045	<0.0200 DLA	0.0150
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.0382	0.0383	0.00379	0.724	0.494
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	1.32	1.31	0.140	24.1	5.55
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0443	0.0441	0.0391	0.0460	0.0177
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000400 DLA	<0.000100
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.00100 DLA	<0.000250 DLA
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.025	0.025	0.028	0.368	0.257
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	0.000107	0.000150
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	27.2	26.4	68.2	395	375
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000025	0.000027	<0.000010	0.000588	0.000149
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00018	<0.00010	<0.00010	<0.00200 DLA	<0.00050 DLA
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.0100 DLA	<0.00250 DLA
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00010	<0.00010	0.00234	0.0108	0.00705
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00034	0.00031	0.00025	0.00632	0.00797

Analytical Results

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

				Client sample ID	PLA-240813	DUP-PLA-240813	TRCK-240813	NWTCA-240813	NPTCA-240813
				Client sampling date / time	13-Aug-2024 14:40	13-Aug-2024 14:40	13-Aug-2024 16:06	13-Aug-2024 16:23	13-Aug-2024 16:57
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401169-001	YL2401169-002	YL2401169-003	YL2401169-004	YL2401169-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.016	<0.010	0.056	<0.200 DLA	<0.050 DLA
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	0.00201	0.000279
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0082	0.0081	0.0139	0.0348	0.0234
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	21.2	20.7	42.8	120	121
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00557	0.00545	0.0338	0.0464	0.0166
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.000140	0.000138	0.000452	0.0200	0.0313
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00050	<0.00050	0.00069	0.0228	0.00855
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.050	<0.050	<1.00 DLA	<0.250 DLA
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	4.13	4.04	5.66	13.0	14.2
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00649	0.00648	0.00303	0.0124	0.0125
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000077	0.000069	0.000073	<0.00100 DLA	0.000790
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	0.124	0.107	1.88	5.59	0.959
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000200 DLA	<0.000050 DLA
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	5.23	5.14	39.2	206	114
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.0807	0.0813	0.328	4.68	1.97
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	13.0	13.0	47.8	332	444
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00400 DLA	<0.00100 DLA
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000200 DLA	0.000103
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00200 DLA	<0.00050 DLA
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00200 DLA	0.00119
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00600 DLA	<0.00150 DLA
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00200 DLA	0.00463
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00235	0.00230	0.000841	0.00648	0.00494
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.0100 DLA	<0.00250 DLA
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0200 DLA	<0.0050 DLA
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00400 DLA	<0.00100 DLA
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	Field

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	STPO-240813	PLPO-240813	SNP431-G-240813	DUP-SNP431-G-240813	SNP431-240813
Client sample ID					STPO-240813	PLPO-240813	SNP431-G-240813	DUP-SNP431-G-240813	SNP431-240813
Client sampling date / time					13-Aug-2024 17:04	13-Aug-2024 17:06	13-Aug-2024 17:18	13-Aug-2024 17:18	13-Aug-2024 18:17
					YL2401169-006	YL2401169-007	YL2401169-008	YL2401169-009	YL2401169-010
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	44.4	41.6	----	----	40.8
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	----	----	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	----	----	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	----	----	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	44.4	41.6	----	----	40.8
Conductivity	----	E100/VA	1.0	µS/cm	3550	3350	----	----	3350
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1660	1550	----	----	1530
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1650	1590	----	----	1550
pH	----	E108/VA	0.10	pH units	7.85	7.86	----	----	7.77
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	3820	3500	----	----	3440
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	3.1	2.9	----	----	2.8
Turbidity	----	E121/VA	0.10	NTU	0.57	0.36	----	----	0.47
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0395	0.0190	0.0197	0.0194	0.0272
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	7.26	6.72	----	----	6.70
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	562	505	----	----	510
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.400 DLDS	<0.400 DLDS	----	----	<0.400 DLDS
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.563	0.575	----	----	0.545
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.563	0.575	----	----	0.545
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0200 DLDS	<0.0200 DLDS	----	----	<0.0200 DLDS
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	2.63	1.31	----	----	1.30
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	1310	1180	----	----	1180
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/VA	0.0050	mg/L	----	----	----	----	<0.0050
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	7.94	7.58	----	----	8.64 RRV
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	6.94	7.39	----	----	6.87 RRV
Ion Balance									

Analytical Results

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

				Client sample ID	STPO-240813	PLPO-240813	SNP431-G-240813	DUP-SNP431-G-240813	SNP431-240813
				Client sampling date / time	13-Aug-2024 17:04	13-Aug-2024 17:06	13-Aug-2024 17:18	13-Aug-2024 17:18	13-Aug-2024 18:17
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401169-006	YL2401169-007	YL2401169-008	YL2401169-009	YL2401169-010
					Result	Result	Result	Result	Result
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	44.1	39.8	----	----	39.9
Cation sum	----	EC101/VA	0.10	meq/L	42.7	39.9	----	----	39.7
Ion balance (APHA)	----	EC101/VA	0.01	%	-1.61	0.12	----	----	-0.25
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0133	0.0104	----	----	0.0094
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.195	0.179	----	----	0.172
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.333	0.263	----	----	0.258
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0177	0.0176	----	----	0.0173
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	----	----	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000100 DLA	<0.000100 DLA	----	----	<0.000100 DLA
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.381	0.363	----	----	0.347
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000156	0.0000182	----	----	0.0000226
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	473	470	----	----	451
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000298	0.000386	----	----	0.000395
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00020 DLA	0.00024	----	----	0.00037
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	----	----	<0.00100 DLA
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00431	0.00440	----	----	0.00441
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.0242	0.00773	----	----	0.00787
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.133	0.030	----	----	0.034
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000375	<0.000100 DLA	----	----	<0.000100 DLA
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0400	0.0397	----	----	0.0385
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	113	102	----	----	103
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00606	0.00396	----	----	0.00436
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	----	----	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0274	0.0178	----	----	0.0176
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.0163	0.00828	----	----	0.00837
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.100 DLA	<0.100 DLA	----	----	<0.100 DLA
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	14.5	13.0	----	----	12.9
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.0113	0.0115	----	----	0.0117
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000668	0.000448	----	----	0.000370

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	STPO-240813	PLPO-240813	SNP431-G-240813	DUP-SNP431-G-240813	SNP431-240813
				Client sampling date / time	13-Aug-2024 17:04	13-Aug-2024 17:06	13-Aug-2024 17:18	13-Aug-2024 17:18	13-Aug-2024 18:17
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401169-006	YL2401169-007	YL2401169-008	YL2401169-009	YL2401169-010
					Result	Result	Result	Result	Result
Total Metals									
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	1.35	0.71	----	----	0.68
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000212	0.000043	----	----	0.000049
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	205	195	----	----	194
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	4.90	4.40	----	----	4.36
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	512	506	----	----	494
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	0.00092	0.00107	----	----	0.00107
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000020 DLA	0.000024	----	----	<0.000020 DLA
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	----	----	<0.00020 DLA
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	----	----	<0.00020 DLA
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00060 DLA	<0.00060 DLA	----	----	<0.00060 DLA
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00024	0.00028	----	----	0.00028
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00206	0.00246	----	----	0.00248
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	----	----	<0.00100 DLA
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0060 DLA	<0.0060 DLA	----	----	<0.0060 DLA
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	----	----	<0.00040 DLA
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0078	0.0139	----	----	0.0095
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.176	0.163	----	----	0.163
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.306	0.246	----	----	0.246
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0182	0.0179	----	----	0.0176
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100	----	----	<0.000100
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000100 DLA	<0.000100 DLA	----	----	<0.000100 DLA
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.346	0.314	----	----	0.298
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000150 DLM	0.0000196	----	----	0.0000184
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	457	432	----	----	423
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000287	0.000388	----	----	0.000383
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00020 DLA	0.00032	----	----	0.00028
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	----	----	<0.00100 DLA
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00438	0.00424	----	----	0.00426
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.0133	0.00749	----	----	0.00726

Analytical Results

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

				Client sample ID	STPO-240813	PLPO-240813	SNP431-G-240813	DUP-SNP431-G-240813	SNP431-240813
				Client sampling date / time	13-Aug-2024 17:04	13-Aug-2024 17:06	13-Aug-2024 17:18	13-Aug-2024 17:18	13-Aug-2024 18:17
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401169-006	YL2401169-007	YL2401169-008	YL2401169-009	YL2401169-010
					Result	Result	Result	Result	Result
Dissolved Metals									
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	<0.020 DLA	<0.020 DLA	----	----	<0.020 DLA
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000100 DLA	<0.000100 DLA	----	----	<0.000100 DLA
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0367	0.0346	----	----	0.0330
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	126	115	----	----	116
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00509	0.00191	----	----	0.00251
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	----	----	<0.0000050
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.0256	0.0164	----	----	0.0162
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.0160	0.00875	----	----	0.00864
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.100 DLA	<0.100 DLA	----	----	<0.100 DLA
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	14.7	13.5	----	----	13.4
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.0118	0.0119	----	----	0.0121
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000613	0.000454	----	----	0.000274
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	1.37	0.619	----	----	0.646
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	0.000111	0.000026	----	----	0.000022
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	211	197	----	----	200
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	4.24	3.96	----	----	3.93
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	474	440	----	----	429
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	----	----	<0.00040 DLA
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	0.000025	0.000029	----	----	0.000027
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	----	----	<0.00020 DLA
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	----	----	<0.00020 DLA
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00060 DLA	<0.00060 DLA	----	----	<0.00060 DLA
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00023	0.00028	----	----	0.00028
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00215	0.00266	----	----	0.00252
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	----	----	<0.00100 DLA
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0020 DLA	<0.0020 DLA	----	----	0.0038
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	----	----	<0.00040 DLA
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	----	----	Field
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	----	----	Field
Volatile Organic Compounds [Fuels]									

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	STPO-240813	PLPO-240813	SNP431-G-240813	DUP-SNP431-G-240813	SNP431-240813
				Client sampling date / time	13-Aug-2024 17:04	13-Aug-2024 17:06	13-Aug-2024 17:18	13-Aug-2024 17:18	13-Aug-2024 18:17
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401169-006	YL2401169-007	YL2401169-008	YL2401169-009	YL2401169-010
					Result	Result	Result	Result	Result
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	----	----	----	----	<0.00050
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	----	----	----	----	<0.00050
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	----	----	----	----	<0.00050
Styrene	100-42-5	E611A/VA	0.00050	mg/L	----	----	----	----	<0.00050
Toluene	108-88-3	E611A/VA	0.00050	mg/L	----	----	----	----	<0.00050
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	----	----	----	----	<0.00040
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	----	----	----	----	<0.00030
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	----	----	----	----	<0.00050
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	----	----	----	----	<0.10
F2 (C10-C16)	----	E601/VA	0.10	mg/L	----	----	----	----	<0.10
F3 (C16-C34)	----	E601/VA	0.25	mg/L	----	----	----	----	<0.25
F4 (C34-C50)	----	E601/VA	0.25	mg/L	----	----	----	----	<0.25
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	----	----	----	----	<0.38
F1-BTEX	----	EC580/VA	0.100	mg/L	----	----	----	----	<0.100
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	----	----	----	84.6
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	----	----	----	105
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	----	----	----	100
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	----	----	----	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)				Client sample ID	FB-SNP431-240813	----	----	----	----
				Client sampling date / time	13-Aug-2024 18:17	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401169-011	--------	--------	--------	--------
					Result	----	----	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	----	----	----	----
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	<1.0	----	----	----	----
Conductivity	----	E100/VA	1.0	µS/cm	1.1	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	<0.60	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	<0.60	----	----	----	----
pH	----	E108/VA	0.10	pH units	5.55	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	<3.0	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	----	----	----	----
Turbidity	----	E121/VA	0.10	NTU	<0.10	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	----	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	<0.50	----	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.020	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0050	----	----	----	----
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	----	----	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	<0.50	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	<0.30	----	----	----	----
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/VA	0.0050	mg/L	<0.0050	----	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	<0.50	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	<0.50	----	----	----	----
Ion Balance									

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	FB-SNP431-240813	----	----	----	----
				Client sampling date / time	13-Aug-2024 18:17	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401169-011	--------	--------	--------	--------
					Result	----	----	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	<0.10	----	----	----	----
Cation sum	----	EC101/VA	0.10	meq/L	<0.10	----	----	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	0.0	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	<0.0030	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----
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	<0.050	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00010	----	----	----	----
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	<0.00050	----	----	----	----
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	<0.0010	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	<0.0050	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	<0.000050	----	----	----	----
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	<0.050	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	<0.00020	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000050	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	FB-SNP431-240813	----	----	----	----
					Client sampling date / time	13-Aug-2024 18:17	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401169-011	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		<0.10	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		<0.050	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		<0.50	----	----	----	----
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	----	----	----	----
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		<0.000010	----	----	----	----
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										
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L		<0.0010	----	----	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L		<0.00010	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L		<0.00010	----	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L		<0.00010	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L		<0.000050	----	----	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L		<0.010	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		<0.050	----	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L		<0.000010	----	----	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L		<0.00010	----	----	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L		<0.00010	----	----	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L		<0.00020	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	FB-SNP431-240813	----	----	----	----
					Client sampling date / time	13-Aug-2024 18:17	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401169-011	--------	--------	--------	--------
						Result	----	----	----	----
Dissolved Metals										
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L		<0.010	----	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L		<0.000050	----	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L		<0.0010	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		<0.0050	----	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L		<0.00010	----	----	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L		<0.000050	----	----	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L		<0.00050	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L		<0.050	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		<0.050	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		<0.00020	----	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L		<0.000050	----	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L		<0.050	----	----	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		<0.050	----	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		<0.00020	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L		<0.50	----	----	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L		<0.00020	----	----	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L		<0.00010	----	----	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L		<0.00010	----	----	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L		<0.00030	----	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L		<0.000010	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L		<0.00050	----	----	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L		<0.0010	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L		<0.00020	----	----	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	----	----	----	----
Volatile Organic Compounds [Fuels]										

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	FB-SNP431-240813	----	----	----	----
				Client sampling date / time	13-Aug-2024 18:17	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401169-011	--------	--------	--------	--------
					Result	----	----	----	----
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Styrene	100-42-5	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Toluene	108-88-3	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	<0.00040	----	----	----	----
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	<0.00030	----	----	----	----
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	<0.00050	----	----	----	----
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	<0.10	----	----	----	----
F2 (C10-C16)	----	E601/VA	0.10	mg/L	<0.10	----	----	----	----
F3 (C16-C34)	----	E601/VA	0.25	mg/L	<0.25	----	----	----	----
F4 (C34-C50)	----	E601/VA	0.25	mg/L	<0.25	----	----	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	<0.38	----	----	----	----
F1-BTEX	----	EC580/VA	0.100	mg/L	<0.100	----	----	----	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	86.9	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	98.2	----	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	97.9	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	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.

ALS Canada Ltd.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401169**	Page	: 1 of 34
Amendment	: **1**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 14-Aug-2024 09:10
PO	: YEL218	Issue Date	: 30-Aug-2024 11:49
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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) DUP-PLA-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) DUP-SNP431-G-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) FB-SNP431-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) NPTCA-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) NWTCA-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) PLA-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) PLPO-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-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
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP431-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP431-G-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) STPO-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TRCK-240813	E298	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	19-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE DUP-PLA-240813	E235.Br-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE FB-SNP431-240813	E235.Br-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE NPTCA-240813	E235.Br-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE NWTCA-240813	E235.Br-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE PLA-240813	E235.Br-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 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
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE PLPO-240813	E235.Br-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP431-240813	E235.Br-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE STPO-240813	E235.Br-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE TRCK-240813	E235.Br-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP-PLA-240813	E235.Cl	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE FB-SNP431-240813	E235.Cl	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE NPTCA-240813	E235.Cl	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE NWTCA-240813	E235.Cl	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE PLA-240813	E235.Cl	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 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
Anions and Nutrients : Chloride in Water by IC										
HDPE PLPO-240813	E235.Cl	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP431-240813	E235.Cl	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE STPO-240813	E235.Cl	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TRCK-240813	E235.Cl	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-PLA-240813	E235.F	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE FB-SNP431-240813	E235.F	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE NPTCA-240813	E235.F	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE NWTCA-240813	E235.F	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE PLA-240813	E235.F	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 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
Anions and Nutrients : Fluoride in Water by IC										
HDPE PLPO-240813	E235.F	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP431-240813	E235.F	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE STPO-240813	E235.F	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TRCK-240813	E235.F	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE DUP-PLA-240813	E235.NO3-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE FB-SNP431-240813	E235.NO3-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE NPTCA-240813	E235.NO3-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE NWTCA-240813	E235.NO3-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE PLA-240813	E235.NO3-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 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
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
PLPO-240813	E235.NO3-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
SNP431-240813	E235.NO3-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
STPO-240813	E235.NO3-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
TRCK-240813	E235.NO3-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
DUP-PLA-240813	E235.NO2-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
FB-SNP431-240813	E235.NO2-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
NPTCA-240813	E235.NO2-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
NWTCA-240813	E235.NO2-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
PLA-240813	E235.NO2-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE PLPO-240813	E235.NO2-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP431-240813	E235.NO2-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE STPO-240813	E235.NO2-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE TRCK-240813	E235.NO2-L	13-Aug-2024	16-Aug-2024	3 days	3 days	✓	16-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE DUP-PLA-240813	E392	13-Aug-2024	----	----	----		22-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE FB-SNP431-240813	E392	13-Aug-2024	----	----	----		22-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE NPTCA-240813	E392	13-Aug-2024	----	----	----		22-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE NWTCA-240813	E392	13-Aug-2024	----	----	----		22-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE PLA-240813	E392	13-Aug-2024	----	----	----		22-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 : Reactive Silica by Colourimetry										
HDPE PLPO-240813	E392	13-Aug-2024	----	----	----		22-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP431-240813	E392	13-Aug-2024	----	----	----		22-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE STPO-240813	E392	13-Aug-2024	----	----	----		22-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TRCK-240813	E392	13-Aug-2024	----	----	----		22-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE DUP-PLA-240813	E235.SO4	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE FB-SNP431-240813	E235.SO4	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE NPTCA-240813	E235.SO4	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE NWTCA-240813	E235.SO4	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE PLA-240813	E235.SO4	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 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 PLPO-240813	E235.SO4	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP431-240813	E235.SO4	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE STPO-240813	E235.SO4	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TRCK-240813	E235.SO4	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) TRCK-240813	E372-U	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	20-Aug-2024	28 days	7 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide) FB-SNP431-240813	E333	13-Aug-2024	21-Aug-2024	14 days	8 days	✓	21-Aug-2024	14 days	8 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide) SNP431-240813	E333	13-Aug-2024	21-Aug-2024	14 days	8 days	✓	21-Aug-2024	14 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) DUP-PLA-240813	E421.Cr-L	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) FB-SNP431-240813	E421.Cr-L	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 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
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) NPTCA-240813	E421.Cr-L	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) NWTCA-240813	E421.Cr-L	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) PLA-240813	E421.Cr-L	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) PLPO-240813	E421.Cr-L	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP431-240813	E421.Cr-L	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) STPO-240813	E421.Cr-L	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TRCK-240813	E421.Cr-L	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-PLA-240813	E509	13-Aug-2024	20-Aug-2024	28 days	7 days	✓	20-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) FB-SNP431-240813	E509	13-Aug-2024	20-Aug-2024	28 days	7 days	✓	20-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
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
NPTCA-240813	E509	13-Aug-2024	20-Aug-2024	28 days	7 days	✓	20-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
NWTCA-240813	E509	13-Aug-2024	20-Aug-2024	28 days	7 days	✓	20-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
PLA-240813	E509	13-Aug-2024	20-Aug-2024	28 days	7 days	✓	20-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
PLPO-240813	E509	13-Aug-2024	20-Aug-2024	28 days	7 days	✓	20-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP431-240813	E509	13-Aug-2024	20-Aug-2024	28 days	7 days	✓	20-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
STPO-240813	E509	13-Aug-2024	20-Aug-2024	28 days	7 days	✓	20-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
TRCK-240813	E509	13-Aug-2024	20-Aug-2024	28 days	7 days	✓	20-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
DUP-PLA-240813	E421	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
FB-SNP431-240813	E421	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 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
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) NPTCA-240813	E421	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) NWTCA-240813	E421	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) PLA-240813	E421	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) PLPO-240813	E421	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP431-240813	E421	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) STPO-240813	E421	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TRCK-240813	E421	13-Aug-2024	21-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) FB-SNP431-240813	E601	13-Aug-2024	20-Aug-2024	14 days	7 days	✓	20-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP431-240813	E601	13-Aug-2024	20-Aug-2024	14 days	7 days	✓	20-Aug-2024	40 days	0 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
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) FB-SNP431-240813	E581.VH+F1	13-Aug-2024	17-Aug-2024	14 days	4 days	✓	17-Aug-2024	14 days	4 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP431-240813	E581.VH+F1	13-Aug-2024	17-Aug-2024	14 days	4 days	✓	17-Aug-2024	14 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) DUP-PLA-240813	E358-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) FB-SNP431-240813	E358-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) NPTCA-240813	E358-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) NWTCA-240813	E358-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) PLA-240813	E358-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) PLPO-240813	E358-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP431-240813	E358-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 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
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
STPO-240813	E358-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
TRCK-240813	E358-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
DUP-PLA-240813	E355-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
FB-SNP431-240813	E355-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
NPTCA-240813	E355-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
NWTCA-240813	E355-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
PLA-240813	E355-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
PLPO-240813	E355-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP431-240813	E355-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 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
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) STPO-240813	E355-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) TRCK-240813	E355-L	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-PLA-240813	E290	13-Aug-2024	16-Aug-2024	14 days	3 days	✓	16-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE FB-SNP431-240813	E290	13-Aug-2024	16-Aug-2024	14 days	3 days	✓	16-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE NPTCA-240813	E290	13-Aug-2024	16-Aug-2024	14 days	3 days	✓	16-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE NWTCA-240813	E290	13-Aug-2024	16-Aug-2024	14 days	3 days	✓	16-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE PLA-240813	E290	13-Aug-2024	16-Aug-2024	14 days	3 days	✓	16-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE PLPO-240813	E290	13-Aug-2024	16-Aug-2024	14 days	3 days	✓	16-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP431-240813	E290	13-Aug-2024	16-Aug-2024	14 days	3 days	✓	16-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
Physical Tests : Alkalinity Species by Titration										
HDPE STPO-240813	E290	13-Aug-2024	16-Aug-2024	14 days	3 days	✓	16-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TRCK-240813	E290	13-Aug-2024	16-Aug-2024	14 days	3 days	✓	16-Aug-2024	14 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-PLA-240813	E100	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE FB-SNP431-240813	E100	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE NPTCA-240813	E100	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE NWTCA-240813	E100	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE PLA-240813	E100	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE PLPO-240813	E100	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP431-240813	E100	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 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
Physical Tests : Conductivity in Water										
HDPE STPO-240813	E100	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE TRCK-240813	E100	13-Aug-2024	16-Aug-2024	28 days	3 days	✓	16-Aug-2024	28 days	3 days	✓
Physical Tests : pH by Meter										
HDPE FB-SNP431-240813	E108	13-Aug-2024	16-Aug-2024	0.25 hrs	73 hrs	✗ EHTR-FM	16-Aug-2024	0.25 hrs	75 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP431-240813	E108	13-Aug-2024	16-Aug-2024	0.25 hrs	73 hrs	✗ EHTR-FM	16-Aug-2024	0.25 hrs	75 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE PLPO-240813	E108	13-Aug-2024	16-Aug-2024	0.25 hrs	74 hrs	✗ EHTR-FM	16-Aug-2024	0.25 hrs	76 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE STPO-240813	E108	13-Aug-2024	16-Aug-2024	0.25 hrs	74 hrs	✗ EHTR-FM	16-Aug-2024	0.25 hrs	76 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE NPTCA-240813	E108	13-Aug-2024	16-Aug-2024	0.25 hrs	74 hrs	✗ EHTR-FM	16-Aug-2024	0.25 hrs	77 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE NWTCA-240813	E108	13-Aug-2024	16-Aug-2024	0.25 hrs	75 hrs	✗ EHTR-FM	16-Aug-2024	0.25 hrs	77 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE TRCK-240813	E108	13-Aug-2024	16-Aug-2024	0.25 hrs	75 hrs	✗ EHTR-FM	16-Aug-2024	0.25 hrs	77 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 DUP-PLA-240813	E108	13-Aug-2024	16-Aug-2024	0.25 hrs	76 hrs	✗ EHTR-FM	16-Aug-2024	0.25 hrs	79 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE PLA-240813	E108	13-Aug-2024	16-Aug-2024	0.25 hrs	76 hrs	✗ EHTR-FM	16-Aug-2024	0.25 hrs	79 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE DUP-PLA-240813	E162-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE FB-SNP431-240813	E162-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE NPTCA-240813	E162-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE NWTCA-240813	E162-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE PLA-240813	E162-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE PLPO-240813	E162-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP431-240813	E162-L	13-Aug-2024	----	----	----		20-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
STPO-240813	E162-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
TRCK-240813	E162-L	13-Aug-2024	----	----	----		22-Aug-2024	7 days	9 days	× EHT
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
DUP-PLA-240813	E160-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
FB-SNP431-240813	E160-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
NPTCA-240813	E160-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
NWTCA-240813	E160-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
PLA-240813	E160-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
PLPO-240813	E160-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP431-240813	E160-L	13-Aug-2024	----	----	----		20-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] STPO-240813	E160-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] TRCK-240813	E160-L	13-Aug-2024	----	----	----		20-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-PLA-240813	E121	13-Aug-2024	----	----	----		16-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE FB-SNP431-240813	E121	13-Aug-2024	----	----	----		16-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE NPTCA-240813	E121	13-Aug-2024	----	----	----		16-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE NWTCA-240813	E121	13-Aug-2024	----	----	----		16-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE PLA-240813	E121	13-Aug-2024	----	----	----		16-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE PLPO-240813	E121	13-Aug-2024	----	----	----		16-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP431-240813	E121	13-Aug-2024	----	----	----		16-Aug-2024	3 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
Physical Tests : Turbidity by Nephelometry										
HDPE STPO-240813	E121	13-Aug-2024	----	----	----		16-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE TRCK-240813	E121	13-Aug-2024	----	----	----		16-Aug-2024	3 days	3 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) DUP-PLA-240813	E420.Cr-L	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) FB-SNP431-240813	E420.Cr-L	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) NPTCA-240813	E420.Cr-L	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) NWTCA-240813	E420.Cr-L	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) PLA-240813	E420.Cr-L	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) PLPO-240813	E420.Cr-L	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP431-240813	E420.Cr-L	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-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
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) STPO-240813	E420.Cr-L	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TRCK-240813	E420.Cr-L	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) DUP-PLA-240813	E508	13-Aug-2024	18-Aug-2024	28 days	5 days	✓	18-Aug-2024	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) FB-SNP431-240813	E508	13-Aug-2024	18-Aug-2024	28 days	5 days	✓	18-Aug-2024	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) NPTCA-240813	E508	13-Aug-2024	18-Aug-2024	28 days	5 days	✓	18-Aug-2024	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) NWTCA-240813	E508	13-Aug-2024	18-Aug-2024	28 days	5 days	✓	18-Aug-2024	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) PLA-240813	E508	13-Aug-2024	18-Aug-2024	28 days	5 days	✓	18-Aug-2024	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) PLPO-240813	E508	13-Aug-2024	18-Aug-2024	28 days	5 days	✓	18-Aug-2024	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP431-240813	E508	13-Aug-2024	18-Aug-2024	28 days	5 days	✓	18-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
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) STPO-240813	E508	13-Aug-2024	18-Aug-2024	28 days	5 days	✓	18-Aug-2024	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) TRCK-240813	E508	13-Aug-2024	18-Aug-2024	28 days	5 days	✓	18-Aug-2024	28 days	5 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) DUP-PLA-240813	E420	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) FB-SNP431-240813	E420	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) NPTCA-240813	E420	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) NWTCA-240813	E420	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) PLA-240813	E420	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) PLPO-240813	E420	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP431-240813	E420	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-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
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
STPO-240813	E420	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
TRCK-240813	E420	13-Aug-2024	19-Aug-2024	180 days	6 days	✓	19-Aug-2024	180 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
FB-SNP431-240813	E611A	13-Aug-2024	17-Aug-2024	14 days	4 days	✓	17-Aug-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
SNP431-240813	E611A	13-Aug-2024	17-Aug-2024	14 days	4 days	✓	17-Aug-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).

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	1601144	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1601103	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1601148	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1601712	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1601147	1	17	5.8	5.0	✓
Conductivity in Water	E100	1601145	1	17	5.8	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1604970	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1605819	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1604971	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1601104	1	9	11.1	5.0	✓
Fluoride in Water by IC	E235.F	1601146	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1601149	1	17	5.8	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1601150	1	17	5.8	5.0	✓
pH by Meter	E108	1601143	1	17	5.8	5.0	✓
Reactive Silica by Colourimetry	E392	1611684	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1601151	1	17	5.8	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1606461	1	13	7.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1601428	1	20	5.0	5.0	✓
Total Cyanide	E333	1608074	1	16	6.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1602905	1	12	8.3	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1601429	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1601100	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1601102	1	8	12.5	5.0	✓
Turbidity by Nephelometry	E121	1601240	2	28	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1601713	1	14	7.1	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1601144	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1601103	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1601148	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1601712	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1604974	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1601147	1	17	5.8	5.0	✓
Conductivity in Water	E100	1601145	1	17	5.8	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1604970	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1605819	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1604971	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							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1601104	1	9	11.1	5.0	✓
Fluoride in Water by IC	E235.F	1601146	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1601149	1	17	5.8	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1601150	1	17	5.8	5.0	✓
pH by Meter	E108	1601143	1	17	5.8	5.0	✓
Reactive Silica by Colourimetry	E392	1611684	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1601151	1	17	5.8	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1606461	1	13	7.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1601428	1	20	5.0	5.0	✓
Total Cyanide	E333	1608074	1	16	6.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1602905	1	12	8.3	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1601429	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1601100	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1601102	1	8	12.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1606460	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1601240	2	28	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1601713	1	14	7.1	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1601144	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1601103	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1601148	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1601712	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1604974	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1601147	1	17	5.8	5.0	✓
Conductivity in Water	E100	1601145	1	17	5.8	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1604970	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1605819	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1604971	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1601104	1	9	11.1	5.0	✓
Fluoride in Water by IC	E235.F	1601146	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1601149	1	17	5.8	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1601150	1	17	5.8	5.0	✓
Reactive Silica by Colourimetry	E392	1611684	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1601151	1	17	5.8	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1606461	1	13	7.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1601428	1	20	5.0	5.0	✓
Total Cyanide	E333	1608074	1	16	6.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1602905	1	12	8.3	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1601429	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*
Method Blanks (MB) - Continued							
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1601100	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1601102	1	8	12.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1606460	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1601240	2	28	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1601713	1	14	7.1	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1601103	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1601148	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1601712	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1601147	1	17	5.8	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1604970	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1605819	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1604971	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1601104	1	9	11.1	5.0	✓
Fluoride in Water by IC	E235.F	1601146	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1601149	1	17	5.8	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1601150	1	17	5.8	5.0	✓
Reactive Silica by Colourimetry	E392	1611684	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1601151	1	17	5.8	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1601428	1	20	5.0	5.0	✓
Total Cyanide	E333	1608074	1	16	6.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1602905	1	12	8.3	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1601429	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1601100	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1601102	1	8	12.5	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1601713	1	14	7.1	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.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
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.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
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.
Fluoride in Water by IC	E235.F 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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 Cyanide	E333 ALS Environmental - Vancouver	Water	ISO 14403 (mod)	Total or Strong Acid Dissociable (SAD) Cyanide is determined by Continuous Flow Analyzer (CFA) with in-line UV digestion followed by colourmetric analysis. Method Limitation: High levels of thiocyanate (SCN) may cause positive interference (up to 0.5% of SCN concentration).
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).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and 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 DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
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.
Reactive Silica by Colourimetry	E392 ALS Environmental - Vancouver	Water	APHA 4500-SiO_2 E (mod)	Silicate (molybdate-reactive silica) is determined by the molybdosilicate-heteropoly blue colourimetric method using a discrete analyzer. Method Limitation: Arsenic (5+) above 100 mg/L is a negative interference on this test

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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 Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L 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.
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.
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L ALS Environmental - Vancouver	Water	APHA 3030 B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS
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
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then 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.
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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Vancouver	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
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).
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 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
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401169**	Page	: 1 of 21
Amendment	: **1**		
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 14-Aug-2024 09:10
PO	: YEL218	Date Analysis Commenced	: 16-Aug-2024
C-O-C number	: ----	Issue Date	: 30-Aug-2024 11:49
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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
Dan Gebert	Laboratory Analyst	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	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: 1601143)											
VA24C0713-003	Anonymous	pH	----	E108	0.10	pH units	8.01	7.98	0.375%	4%	----
Physical Tests (QC Lot: 1601144)											
VA24C0713-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	112	112	0.179%	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	112	112	0.179%	20%	----
Physical Tests (QC Lot: 1601145)											
VA24C0713-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	769	770	0.130%	10%	----
Physical Tests (QC Lot: 1601240)											
KS2403247-001	Anonymous	Turbidity	----	E121	0.10	NTU	0.58	0.50	0.08	Diff <2x LOR	----
Physical Tests (QC Lot: 1601241)											
YL2401169-005	NPTCA-240813	Turbidity	----	E121	0.10	NTU	1.35	1.29	0.06	Diff <2x LOR	----
Physical Tests (QC Lot: 1606461)											
YL2401169-001	PLA-240813	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	241	235	2.52%	20%	----
Anions and Nutrients (QC Lot: 1601102)											
FJ2402366-011	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0109	0.0111	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1601103)											
FJ2402366-011	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0148	0.0144	0.0004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1601146)											
VA24C0713-001	Anonymous	Fluoride	16984-48-8	E235.F	0.200	mg/L	<0.200	<0.200	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1601147)											
VA24C0713-001	Anonymous	Chloride	16887-00-6	E235.Cl	5.00	mg/L	22.8	22.6	0.11	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1601148)											
VA24C0713-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.500	mg/L	<0.500	<0.500	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1601149)											
VA24C0713-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0500	mg/L	0.417	0.415	0.0021	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1601150)											
VA24C0713-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0100	mg/L	<0.0100	<0.0100	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: 1601151)											
VA24C0713-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	3.00	mg/L	708	709	0.149%	20%	----
Anions and Nutrients (QC Lot: 1611684)											
VA24C0872-003	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	6.82	6.83	0.117%	20%	----
Cyanides (QC Lot: 1608074)											
VA24C0193-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1601100)											
FJ2402366-011	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	6.53	7.04	7.53%	20%	----
Organic / Inorganic Carbon (QC Lot: 1601104)											
YL2401169-001	PLA-240813	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	22.7	24.1	5.89%	20%	----
Total Metals (QC Lot: 1601428)											
VA24C0409-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00050	mg/L	0.00062	0.00059	0.00003	Diff <2x LOR	----
Total Metals (QC Lot: 1601429)											
VA24C0409-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0150	mg/L	0.316	0.318	0.693%	20%	----
		Antimony, total	7440-36-0	E420	0.00050	mg/L	0.00068	0.00066	0.00002	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00050	mg/L	0.0550	0.0558	1.33%	20%	----
		Barium, total	7440-39-3	E420	0.00050	mg/L	0.0779	0.0785	0.724%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	0.000117	0.000123	0.000006	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	<0.050	<0.050	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000250	mg/L	0.0603	0.0604	0.180%	20%	----
		Calcium, total	7440-70-2	E420	0.250	mg/L	270	270	0.0624%	20%	----
		Cesium, total	7440-46-2	E420	0.000050	mg/L	0.000330	0.000312	0.000018	Diff <2x LOR	----
		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	0.0280	0.0282	0.950%	20%	----
		Copper, total	7440-50-8	E420	0.00250	mg/L	0.116	0.118	1.23%	20%	----
		Iron, total	7439-89-6	E420	0.050	mg/L	10.7	10.6	0.787%	20%	----
		Lead, total	7439-92-1	E420	0.000250	mg/L	0.00141	0.00138	0.000022	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0050	mg/L	0.0055	0.0056	0.0001	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0250	mg/L	69.2	68.0	1.77%	20%	----
		Manganese, total	7439-96-5	E420	0.00050	mg/L	20.7	20.6	0.296%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000250	mg/L	0.000521	0.000528	0.000007	Diff <2x LOR	----
		Nickel, total	7440-02-0	E420	0.00250	mg/L	0.0225	0.0230	0.00056	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.250	mg/L	<0.250	<0.250	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: 1601429) - continued											
VA24C0409-001	Anonymous	Potassium, total	7440-09-7	E420	0.250	mg/L	5.10	5.18	1.52%	20%	----
		Rubidium, total	7440-17-7	E420	0.00100	mg/L	0.00194	0.00208	0.00014	Diff <2x LOR	----
		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	9.55	9.68	1.43%	20%	----
		Silver, total	7440-22-4	E420	0.000050	mg/L	0.000051	<0.000050	0.0000007	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.250	mg/L	17.1	17.3	1.34%	20%	----
		Strontium, total	7440-24-6	E420	0.00100	mg/L	0.833	0.826	0.808%	20%	----
		Sulfur, total	7704-34-9	E420	2.50	mg/L	300	304	1.32%	20%	----
		Tellurium, total	13494-80-9	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		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	0.00600	mg/L	<0.00600	<0.00600	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000050	mg/L	0.00174	0.00170	2.36%	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	6.74	7.00	3.74%	20%	----
		Zirconium, total	7440-67-7	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
Total Metals (QC Lot: 1602905)											
VA24C0513-004	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1604970)											
YL2401169-001	PLA-240813	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00018	0.00018	0.000004	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1604971)											
YL2401169-001	PLA-240813	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0210	0.0209	0.331%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.0382	0.0399	4.33%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	1.32	1.32	0.580%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0443	0.0436	1.64%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.025	0.025	0.0002	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	27.2	26.4	2.66%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000025	0.000026	0.000002	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
					Laboratory Duplicate (DUP) Report						
Dissolved Metals (QC Lot: 1604971) - continued											
YL2401169-001	PLA-240813	Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00034	0.00031	0.00003	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.016	0.017	0.0006	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0082	0.0081	0.00007	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	21.2	20.8	2.26%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00557	0.00554	0.588%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000140	0.000155	0.000015	Diff <2x LOR	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	4.13	4.02	2.60%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00649	0.00653	0.618%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000077	<0.000050	0.000027	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	0.124	0.124	0.0010	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	5.23	5.10	2.48%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.0807	0.0823	1.92%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	13.0	13.7	5.02%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00235	0.00242	3.02%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1605819)											
VA24C0369-004	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1601712)											
VA24B9943-001	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	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	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: 1601712) - continued											
VA24B9943-001	Anonymous	Styrene	100-42-5	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: 1601713)											
VA24C0178-001	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: 1601144)						
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: 1601145)						
Conductivity	----	E100	1	µS/cm	1.2	----
Physical Tests (QCLot: 1601240)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1601241)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1606460)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1606461)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1601102)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1601103)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1601146)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1601147)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1601148)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1601149)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1601150)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1601151)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1611684)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1611684) - continued						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Cyanides (QCLot: 1608074)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1601100)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1601104)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1601428)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1601429)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1601429) - continued						
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: 1602905)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1604970)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1604971)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1604971) - continued						
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1605819)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1601712)						
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	----
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: 1601713)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1604974)						
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: 1601143)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1601144)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	88.8	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1601145)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	99.5	90.0	110	----
Physical Tests (QCLot: 1601240)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1601241)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1606460)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	107	85.0	115	----
Physical Tests (QCLot: 1606461)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1601102)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	93.6	80.0	120	----
Anions and Nutrients (QCLot: 1601103)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	97.7	85.0	115	----
Anions and Nutrients (QCLot: 1601146)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	93.0	90.0	110	----
Anions and Nutrients (QCLot: 1601147)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	97.7	90.0	110	----
Anions and Nutrients (QCLot: 1601148)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1601149)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.9	90.0	110	----
Anions and Nutrients (QCLot: 1601150)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	96.0	90.0	110	----
Anions and Nutrients (QCLot: 1601151)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.7	90.0	110	----
Anions and Nutrients (QCLot: 1611684)									

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: 1611684) - continued									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	97.2	85.0	115	----
Cyanides (QCLot: 1608074)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	96.8	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1601100)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1601104)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	101	80.0	120	----
Total Metals (QCLot: 1601428)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Total Metals (QCLot: 1601429)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	97.8	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	103	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	101	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	103	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	92.6	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	104	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	97.8	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	97.6	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	102	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	107	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	100	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	100.0	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	95.1	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	101	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	104	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: 1601429) - continued									
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	97.0	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	94.3	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	99.6	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	107	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	97.6	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	101	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	93.6	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	95.6	80.0	120	----
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	96.6	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	100	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Total Metals (QCLot: 1602905)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	104	80.0	120	----
Dissolved Metals (QCLot: 1604970)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	97.1	80.0	120	----
Dissolved Metals (QCLot: 1604971)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	104	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	94.7	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	103	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	101	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	100	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	94.0	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	100	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	102	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	96.6	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	97.1	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	97.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	97.0	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	98.1	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
Dissolved Metals (QCLot: 1604971) - continued									
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	98.9	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	98.5	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	93.8	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	97.2	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	97.6	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	106	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	99.6	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	101	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	105	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	86.2	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	101	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	92.4	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	98.9	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	96.4	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	100	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	96.5	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	93.8	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	100	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.6	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	108	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	96.5	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	94.5	80.0	120	----
Volatile Organic Compounds (QCLot: 1601712)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	106	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	107	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	109	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	107	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	109	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	108	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	110	70.0	130	----

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: 1601713)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	87.4	70.0	130	----
Hydrocarbons (QCLot: 1604974)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	113	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	107	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	114	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: 1601102)										
FJ2402366-012	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0511 mg/L	0.05 mg/L	102	70.0	130	----
Anions and Nutrients (QCLot: 1601103)										
FJ2402366-012	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0964 mg/L	0.1 mg/L	96.4	75.0	125	----
Anions and Nutrients (QCLot: 1601146)										
VA24C0713-002	Anonymous	Fluoride	16984-48-8	E235.F	9.33 mg/L	10 mg/L	93.3	75.0	125	----
Anions and Nutrients (QCLot: 1601147)										
VA24C0713-002	Anonymous	Chloride	16887-00-6	E235.Cl	1010 mg/L	1000 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1601148)										
VA24C0713-002	Anonymous	Bromide	24959-67-9	E235.Br-L	5.34 mg/L	5 mg/L	107	75.0	125	----
Anions and Nutrients (QCLot: 1601149)										
VA24C0713-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	25.5 mg/L	25 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1601150)										
VA24C0713-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	4.93 mg/L	5 mg/L	98.5	75.0	125	----
Anions and Nutrients (QCLot: 1601151)										
VA24C0713-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	1010 mg/L	1000 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1611684)										
VA24C0874-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	9.66 mg/L	10 mg/L	96.6	75.0	125	----
Cyanides (QCLot: 1608074)										
VA24C0361-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.248 mg/L	0.25 mg/L	99.2	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1601100)										
FJ2402366-012	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1601104)										
YL2401169-002	DUP-PLA-240813	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1601428)										
VA24C0409-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0370 mg/L	0.04 mg/L	92.6	70.0	130	----
Total Metals (QCLot: 1601429)										
VA24C0409-002	Anonymous	Aluminum, total	7429-90-5	E420	0.180 mg/L	0.2 mg/L	90.3	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0195 mg/L	0.02 mg/L	97.6	70.0	130	----
		Barium, total	7440-39-3	E420	0.0177 mg/L	0.02 mg/L	88.7	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0360 mg/L	0.04 mg/L	90.1	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: 1601429) - continued										
VA24C0409-002	Anonymous	Bismuth, total	7440-69-9	E420	0.00917 mg/L	0.01 mg/L	91.7	70.0	130	----
		Boron, total	7440-42-8	E420	0.094 mg/L	0.1 mg/L	94.2	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00382 mg/L	0.004 mg/L	95.4	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	0.0370 mg/L	0.04 mg/L	92.6	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0178 mg/L	0.02 mg/L	88.8	70.0	130	----
		Copper, total	7440-50-8	E420	0.0173 mg/L	0.02 mg/L	86.5	70.0	130	----
		Iron, total	7439-89-6	E420	1.84 mg/L	2 mg/L	92.0	70.0	130	----
		Lead, total	7439-92-1	E420	0.0183 mg/L	0.02 mg/L	91.4	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0934 mg/L	0.1 mg/L	93.4	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	0.0194 mg/L	0.02 mg/L	96.9	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0343 mg/L	0.04 mg/L	85.8	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.41 mg/L	10 mg/L	94.1	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0192 mg/L	0.02 mg/L	96.3	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0416 mg/L	0.04 mg/L	104	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	0.00353 mg/L	0.004 mg/L	88.4	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	0.0422 mg/L	0.04 mg/L	106	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00358 mg/L	0.004 mg/L	89.5	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0194 mg/L	0.02 mg/L	97.3	70.0	130	----
		Tin, total	7440-31-5	E420	0.0183 mg/L	0.02 mg/L	91.4	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0188 mg/L	0.02 mg/L	93.9	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00374 mg/L	0.004 mg/L	93.5	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0962 mg/L	0.1 mg/L	96.2	70.0	130	----
		Zinc, total	7440-66-6	E420	0.356 mg/L	0.4 mg/L	89.0	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0397 mg/L	0.04 mg/L	99.3	70.0	130	----
Total Metals (QCLot: 1602905)										
VA24C0513-005	Anonymous	Mercury, total	7439-97-6	E508	0.0000974 mg/L	0 mg/L	97.4	70.0	130	----
Dissolved Metals (QCLot: 1604970)										
YL2401169-002	DUP-PLA-240813	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0384 mg/L	0.04 mg/L	96.0	70.0	130	----
Dissolved Metals (QCLot: 1604971)										
YL2401169-002	DUP-PLA-240813	Aluminum, dissolved	7429-90-5	E421	0.192 mg/L	0.2 mg/L	95.9	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	ND mg/L	----	ND	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	ND mg/L	----	ND	70.0	130	----
		Barium, dissolved	7440-39-3	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
Dissolved Metals (QCLot: 1604971) - continued										
YL2401169-002	DUP-PLA-240813	Beryllium, dissolved	7440-41-7	E421	0.0382 mg/L	0.04 mg/L	95.5	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00900 mg/L	0.01 mg/L	90.0	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.087 mg/L	0.1 mg/L	87.0	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00387 mg/L	0.004 mg/L	96.7	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00936 mg/L	0.01 mg/L	93.6	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0384 mg/L	0.04 mg/L	96.0	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0191 mg/L	0.02 mg/L	95.7	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.90 mg/L	2 mg/L	94.8	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0185 mg/L	0.02 mg/L	92.4	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0881 mg/L	0.1 mg/L	88.1	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0184 mg/L	0.02 mg/L	92.2	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	10.0 mg/L	10 mg/L	100	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0197 mg/L	0.02 mg/L	98.6	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.53 mg/L	10 mg/L	95.3	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00356 mg/L	0.004 mg/L	89.1	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	18.4 mg/L	20 mg/L	92.2	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0366 mg/L	0.04 mg/L	91.6	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00370 mg/L	0.004 mg/L	92.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0174 mg/L	0.02 mg/L	87.0	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0182 mg/L	0.02 mg/L	90.8	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0190 mg/L	0.02 mg/L	95.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00385 mg/L	0.004 mg/L	96.2	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0986 mg/L	0.1 mg/L	98.6	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.409 mg/L	0.4 mg/L	102	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
Dissolved Metals (QCLot: 1605819)										
VA24C0369-005	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000972 mg/L	0 mg/L	97.2	70.0	130	----
Volatile Organic Compounds (QCLot: 1601712)										
VA24B9944-001	Anonymous	Benzene	71-43-2	E611A	96.5 µg/L	100 µg/L	96.5	60.0	140	----
		Ethylbenzene	100-41-4	E611A	96.5 µg/L	100 µg/L	96.5	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	98.2 µg/L	100 µg/L	98.2	60.0	140	----
		Styrene	100-42-5	E611A	96.8 µg/L	100 µg/L	96.8	60.0	140	----
		Toluene	108-88-3	E611A	97.6 µg/L	100 µg/L	97.6	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: 1601712) - continued										
VA24B9944-001	Anonymous	Xylene, m+p-	179601-23-1	E611A	196 µg/L	200 µg/L	97.9	60.0	140	----
		Xylene, o-	95-47-6	E611A	99.5 µg/L	100 µg/L	99.5	60.0	140	----
Hydrocarbons (QCLot: 1601713)										
VA24C0178-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5110 µg/L	6310 µg/L	81.0	60.0	140	----

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting	
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5	
Phone (867) 889-8957	
Contact: Ric Horobin	
rhorobin@slrconsulting.com	

Send Samples For Analysis To:

LABORATORY: ALS Group	
Address: 314 Old Airport Rd, Unit 116 Yellowknife, NT, X1A 3T3	
Phone: (867) 873-5593	
Fax: (867) 920-4238	
Contact: Oliver Gregg	
Email: Oliver.Gregg@alsglobal.com	

eMail Confirmation and Results To:

Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@rcaanc-cirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original Signed Lab Reports To:

COMPANY: SLR Consulting	
1B Coronation Drive, Yellowknife, NT X1A 0G5	
Telephone: (867) 889-8957	
Fax:	
Contact: Ric Horobin	
Email: rhorobin@slrconsulting.com	

Send Invoice To:

COMPANY: SLR Consulting	
Address:	
Phone:	
Fax:	
Attn: rhorobin@slrconsulting.com	
AccountsPayableCA@slrconsulting.com	

FIELD SAMPLE INFORMATION

Field Notes:

All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.

Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:		As required - Marked on bottle																			
√ = Field Filtered:		As required - Marked on bottle																			
√ = Standard TAT:		√	√	√	√	√	√	√	√	√											
√ = 1-Day Rush:																					
Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Total Ammonia										
PLA-240813	P-LA	13-Aug-24	14:40	Water			G	8	X	X	X																
DUP-PLA-240813	P-LA	13-Aug-24	14:40	Water			G	8	X	X	X																
TRCK-240813	TR-CK	13-Aug-24	16:06	Water			G	8	X	X	X		X														
NWTCA-240813	NW-TCA	13-Aug-24	16:23	Water			G	8	X	X	X																
NPTCA-240813	NP-TCA	13-Aug-24	16:57	Water			G	8	X	X	X																
STPO-240813	ST-PO	13-Aug-24	17:04	Water			G	8	X	X	X																
PLPO-240813	PL-PO	13-Aug-24	17:06	Water			G	8	X	X	X																
SNP431-G-240813	SNP 43-1	13-Aug-24	17:18	Water			G	1									X										
DUP-SNP431-G-240813	SNP 43-1	13-Aug-24	17:18	Water			G	1									X										
SNP431-240813	SNP 43-1	13-Aug-24	18:17	Water			C	13	X	X	X	X		X													
FB-SNP431-240813	SNP 43-1	13-Aug-24	18:17	Water			C	13	X	X	X	X		X													

Environmental Division
Yellowknife
Work Order Reference
YL2401169

Telephone : +1 867 873 5593

Relinquished by (Sampler Signature): Keenan Kakfwi		**Date/Time:** 2024-August-14 9:10		**Company: SLR Consulting**	
Received by (Name): Simon Arlooktoo	**Received by (Signature)**	**Company: ALS** AUG 14/24 ALS	**Sample Receipt Temperature (deg. C):** 5.3	**SAMPLE CONDITION (lab use only)** Samples Received in Good Condition? Yes / No (If no, provide details.)	On cooling media Y / N

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CERTIFICATE OF ANALYSIS

Work Order	: **YL2401171**	Page	: 1 of 2
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 14-Aug-2024 09:10
PO	: YEL218	Date Analysis Commenced	: 05-Sep-2024
C-O-C number	: ----	Issue Date	: 05-Sep-2024 14:26
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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*
Oliver Gregg	Client Services Supervisor	External Subcontracting, Saskatoon, Saskatchewan

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*
Bq/L	becquerels 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.

Analytical Results

Sub-Matrix: **Water** (Matrix: **Water**)				*Client sample ID*	**SNP431-240813**	**FB-SNP431-240813**	**----**	**----**	**----**
				Client sampling date / time	13-Aug-2024 18:17	13-Aug-2024 18:17	----	----	----
Analyte	*CAS Number*	*Method/Lab*	*LOR*	*Unit*	**YL2401171-001**	**YL2401171-002**	**--------**	**--------**	**--------**
					Result	Result	----	----	----
Radiological Parameters									
Radium-226	13982-63-3	Ra-226/2I	0.005	Bq/L	<0.005	<0.005	----	----	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401171**	Page	: 1 of 4
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 14-Aug-2024 09:10
PO	: YEL218	Issue Date	: 05-Sep-2024 14:26
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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 Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

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	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
Container / Client Sample ID(s)			*Preparation Date*	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid)										
FB-SNP431-240813	Ra-226	13-Aug-2024	----	----	----		05-Sep-2024	----	22 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid)										
SNP431-240813	Ra-226	13-Aug-2024	----	----	----		05-Sep-2024	----	22 days	

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

- **No Quality Control data available for this section.**

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
Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)	Ra-226 Saskatchewan Research Council - 143 - 111 Research Drive Saskatoon Saskatchewan Canada S7N 3R2	Water		See attached report.

ALS Canada Ltd.

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QUALITY CONTROL REPORT

Work Order	: **YL2401171**	Page	: 1 of 2
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 14-Aug-2024 09:10
PO	: YEL218	Date Analysis Commenced	: 05-Sep-2024
C-O-C number	: ----	Issue Date	: 05-Sep-2024 14:26
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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:

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*
Oliver Gregg	Client Services Supervisor	Saskatchewan Research Council External Subcontracting, Saskatoon, Saskatchewan

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.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

Test Report

SRC Group # 2024-10338

Sep 05, 2024

ALS
314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Date Samples Received: Aug-20-2024 Client P.O.: YL2401171

All results have been reviewed and approved by a Qualified Person in accordance with the Saskatchewan Environmental Code, Corrective Action Plan Chapter, for the purposes of certifying a laboratory analysis

Results from Lab Section 4 approved by Philibert, Kelcey

Test methods and data are validated by the laboratory's Quality Assurance Program.

Routine methods follow recognized procedures from sources such as
- -Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF
- -Environment Canada
- -US EPA
- -CANMET

The results reported relate only to the test samples as provided by the client. Results apply to the sample as received, unless otherwise indicated.

Data marked as "by Client" has been provided by the client and may affect the validity of results.

Samples will be kept for 30 days after the final report is sent. Please contact the lab if you have any special requirements.

Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Analytes denoted with * are accredited by CALA to ISO/IEC 17025:2017.

Additional information is available upon request.

This is a final report.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

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Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10338

Sep 05, 2024

ALS

314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Sample #:	**2024028484**	Client PO #:	**YL2401171**
Date Sampled:	**Aug 13, 2024**	Date Received:	**Aug 20, 2024**
Sample Matrix:	**WATER**		
Description:	**08/13/2024 19:17 SNP431-240813 YL2401171-001**		

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 7 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10338

Sep 05, 2024

ALS

Sample #:	**2024028485**	Client PO #:	**YL2401171**
Date Sampled:	**Aug 13, 2024**	Date Received:	**Aug 20, 2024**
Sample Matrix:	**WATER**		
Description:	**08/13/2024 19:17 FB-SNP431-240813 YL2401171-002**		

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 7 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10338

Sep 05, 2024

ALS

Analyte Methods

Name	Units	Method
Radium-226	Bq/L	Rad-105

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 689-8957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@persons.com
giantdata@rcaanc-cirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@persons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original Signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife, NT
X1A 0G5
Telephone: (867) 689-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:		As required - Marked on bottle																		
√ = Field Filtered:		As required - Marked on bottle																		
√ = Standard TAT:		√	√	√	√	√	√	√	√	√										
√ = 1-Day Rush:																				
Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Radium-226									
SNP431-240813	SNP 43-1	13-Aug-24	18:17	Water			C	1									X									
FB-SNP431-240813	SNP 43-1	13-Aug-24	18:17	Water			G	1									X									

Relinquished by (Sampler Signature): Keenan Kakfwi — T.Kakfwi
Date/Time: 2024-August-14 9:10
Company: SLR Consulting

Received by (Name): Simon Arlooktoo
Received by (Signature)
Company: ALS — AUG 14/24 NS

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 5.3
Samples Received in Good Condition? Yes / No (If no, provide details.)
On cooling media: Y / N

Environmental Division
Yellowknife
Work Order Reference
YL2401171

Telephone : +1 867 873 5593

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CERTIFICATE OF ANALYSIS

Work Order	: **YL2401192**	Page	: 1 of 12
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 15-Aug-2024 15:30
PO	: YEL218	Date Analysis Commenced	: 19-Aug-2024
C-O-C number	: ----	Issue Date	: 26-Aug-2024 16:05
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 9		
No. of samples analysed	: 9		

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
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	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*
-	no units
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
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*
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: SNP4330-240814	SNP4331-240814	DUP-SNP4331-240814	SNP4332-240814	SNP4316-240814
				Client sampling date / time	14-Aug-2024 16:24	14-Aug-2024 16:46	14-Aug-2024 16:46	14-Aug-2024 17:08	14-Aug-2024 17:48
					YL2401192-001	YL2401192-002	YL2401192-003	YL2401192-004	YL2401192-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	140	76.3	76.3	97.6	120
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	140	76.3	76.3	97.6	120
Conductivity	----	E100/VA	1.0	µS/cm	1760	1650	1650	4180	761
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	854	924	952	2130	285
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	860	982	976	2200	288
pH	----	E108/VA	0.10	pH units	8.27	8.16	8.16	8.09	8.08
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	1720	1760	1740	4560	627
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	<1.0	<1.0	3.7	<1.0
Turbidity	----	E121/VA	0.10	NTU	0.57	1.01	1.02	1.98	0.90
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0236	0.0196	0.0194	0.0419	0.0282
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	1.25	<0.500 DLDS	<0.500 DLDS	6.33	0.377
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	128	<5.00 DLDS	<5.00 DLDS	549	88.8
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.200 DLDS	<0.200 DLDS	<0.200 DLDS	<0.400 DLDS	0.135
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0500 DLDS	<0.0500 DLDS	<0.0500 DLDS	<0.100 DLDS	<0.0250 DLDS
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0510	<0.0510	<0.0510	<0.102	<0.0255
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0100 DLDS	<0.0100 DLDS	<0.0100 DLDS	<0.0200 DLDS	<0.0050 DLDS
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	----	----	----	----	0.0733
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	16.0	7.10	7.08	6.28	2.90
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	693	948	942	1720	128
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	13.0	14.5	14.2	14.2	30.5
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	12.5	14.2	13.7	13.2	30.3
Ion Balance									

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	SNP4330-240814	SNP4331-240814	DUP-SNP4331-240814	SNP4332-240814	SNP4316-240814
				Client sample ID	SNP4330-240814	SNP4331-240814	DUP-SNP4331-240814	SNP4332-240814	SNP4316-240814
				Client sampling date / time	14-Aug-2024 16:24	14-Aug-2024 16:46	14-Aug-2024 16:46	14-Aug-2024 17:08	14-Aug-2024 17:48
					YL2401192-001	YL2401192-002	YL2401192-003	YL2401192-004	YL2401192-005
					Result	Result	Result	Result	Result
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	20.8	21.3	21.1	53.3	7.58
Cation sum	----	EC101/VA	0.10	meq/L	20.3	19.1	19.6	52.0	7.66
Ion balance (APHA)	----	EC101/VA	0.01	%	-1.22	-5.44	-3.68	-1.23	0.52
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0030	<0.0150 DLA	<0.0150 DLA	0.0099	0.0105
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.0335	0.156	0.156	0.533	0.00348
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.534	5.97	6.00	2.53	0.182
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0265	0.0192	0.0193	0.0442	0.0448
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100 DLA	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000250 DLA	<0.000250 DLA	<0.000100 DLA	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.180	0.060	0.062	0.348	0.022
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000092	<0.0000250 DLA	<0.0000250 DLA	0.000204	<0.0000050
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	198	276	274	605	52.8
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000011	<0.000050 DLA	<0.000050 DLA	0.000110	<0.000010
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00050 DLA	<0.00050 DLA	<0.00020 DLA	0.00014
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00250 DLA	<0.00250 DLA	<0.00100 DLA	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00288	0.00106	0.00106	0.00646	0.00064
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00489	0.00544	0.00561	0.0222	<0.00050
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.077	0.148	0.149	0.097	0.257
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	0.000324	0.000325	0.000266	0.000052
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0324	0.0110	0.0112	0.0180	0.0142
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	88.7	71.2	71.0	168	37.8
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.113	0.0237	0.0149	0.0860	0.0718
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	0.00511	0.00271	0.00269	0.0232	0.000471
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00800	0.0195	0.0201	0.0322	0.00178
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.250 DLA	<0.250 DLA	<0.100 DLA	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	12.0	6.14	6.14	22.4	5.18
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00445	0.00342	0.00369	0.00863	0.00434
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000234	0.000410	0.000582	0.00101	0.000127

Analytical Results

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

				Client sample ID	SNP4330-240814	SNP4331-240814	DUP-SNP4331-240814	SNP4332-240814	SNP4316-240814
				Client sampling date / time	14-Aug-2024 16:24	14-Aug-2024 16:46	14-Aug-2024 16:46	14-Aug-2024 17:08	14-Aug-2024 17:48
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401192-001	YL2401192-002	YL2401192-003	YL2401192-004	YL2401192-005
					Result	Result	Result	Result	Result
Total Metals									
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	8.21	3.57	3.55	3.42	1.51
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000050 DLA	<0.000050 DLA	0.000126	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	69.3	11.2	11.6	214	42.3
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	1.01	0.465	0.476	3.41	0.236
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	235	326	334	621	45.3
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00100 DLA	<0.00100 DLA	0.00048	<0.00020
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000050 DLA	<0.000050 DLA	0.000050	<0.000010
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00050 DLA	<0.00050 DLA	<0.00020 DLA	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00050 DLA	<0.00050 DLA	<0.00020 DLA	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	<0.00150 DLA	<0.00150 DLA	<0.00180 DLM	0.00063
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00012	<0.00050 DLA	<0.00050 DLA	0.00028	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00329	0.00195	0.00193	0.00356	0.000884
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00250 DLA	<0.00250 DLA	<0.00100 DLA	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	<0.0150 DLA	<0.0150 DLA	0.0261	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00100 DLA	<0.00100 DLA	<0.00040 DLA	<0.00020
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0015	<0.0050	<0.0050	0.0051	0.0042
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.0318	0.148	0.147	0.514	0.00332
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.507	5.68	5.71	2.36	0.158
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0250	0.0177	0.0178	0.0430	0.0435
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000250	<0.000250	<0.000100 DLA	<0.000050
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.191	0.056	0.058	0.342	0.022
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000055	<0.0000250	<0.0000250	0.000199	<0.0000050
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	195	262	271	587	52.8
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000011	<0.000050	<0.000050	0.000104	<0.000010
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00050	<0.00050	<0.00020 DLA	0.00014
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00250	<0.00250	<0.00100 DLA	<0.00050
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00278	0.00099	0.00096	0.00602	0.00059
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00456	0.00500	0.00492	0.0202	0.00037

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	SNP4330-240814	SNP4331-240814	DUP-SNP4331-240814	SNP4332-240814	SNP4316-240814
				Client sample ID	SNP4330-240814	SNP4331-240814	DUP-SNP4331-240814	SNP4332-240814	SNP4316-240814
				Client sampling date / time	14-Aug-2024 16:24	14-Aug-2024 16:46	14-Aug-2024 16:46	14-Aug-2024 17:08	14-Aug-2024 17:48
					YL2401192-001	YL2401192-002	YL2401192-003	YL2401192-004	YL2401192-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.041	0.091	0.098	0.029	0.165
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000250	<0.000250	<0.000100 DLA	<0.000050
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0328	0.0108	0.0107	0.0171	0.0146
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	89.2	65.5	66.9	161	37.3
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.106	0.0124	0.0125	0.0781	0.0625
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.00484	0.00263	0.00253	0.0226	0.000441
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00788	0.0189	0.0195	0.0305	0.00166
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.250	<0.250	<0.100 DLA	<0.050
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	11.6	5.87	5.84	21.5	5.02
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00429	0.00349	0.00362	0.00832	0.00398
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000234	0.000427	0.000456	0.000807	0.000139
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	8.20	3.43	3.46	3.32	1.48
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000050	<0.000050	0.000066	<0.000010
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	68.1	10.7	10.5	205	41.8
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.948	0.445	0.449	3.27	0.235
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	233	316	321	611	43.6
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00100	<0.00100	<0.00040 DLA	<0.00020
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000050	<0.000050	0.000053	<0.000010
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00050	<0.00050	<0.00020 DLA	<0.00010
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00050	<0.00050	<0.00020 DLA	<0.00010
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00150	<0.00150	<0.00060 DLA	0.00032
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00012	<0.00050	<0.00050	0.00026	<0.00010
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00326	0.00181	0.00186	0.00350	0.000925
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	<0.00250	<0.00250	<0.00100 DLA	<0.00050
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	<0.0050	<0.0050	0.0231	0.0020
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00100	<0.00100	<0.00040 DLA	<0.00020
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	Field

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	SNP4329-240814	SNP4323-240814	SNP435-240814	SNP4312-240814	----
				Client sampling date / time	14-Aug-2024 18:10	14-Aug-2024 18:29	14-Aug-2024 18:38	14-Aug-2024 18:48	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401192-006	YL2401192-007	YL2401192-008	YL2401192-009	--------
					Result	Result	Result	Result	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	173	53.4	52.0	42.7	----
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	173	53.4	52.0	42.7	----
Conductivity	----	E100/VA	1.0	µS/cm	2330	3300	3420	169	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1280	1420	1550	61.7	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1340	1560	1630	61.6	----
pH	----	E108/VA	0.10	pH units	8.24	7.70	7.74	7.82	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	2460	3420	3580	133	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	10.0	2.2	<1.0	----
Turbidity	----	E121/VA	0.10	NTU	0.43	9.02	3.08	2.19	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0219	0.0399	0.0102	0.0070	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	1.22	6.04	6.08	0.090	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	105	479	493	9.54	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.400 DLDS	<0.400 DLDS	<0.400 DLDS	0.073	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.515	<0.100 DLDS	<0.100 DLDS	<0.0050	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.515	<0.102	<0.102	<0.0051	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0200 DLDS	<0.0200 DLDS	<0.0200 DLDS	<0.0010	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	----	0.0388	0.0191	0.0088	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	8.76	<0.50	<0.50	1.05	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	1120	1180	1220	23.8	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	7.73	8.95	9.41	5.97	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	7.14	7.92	8.38	5.22	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	29.8	39.2	40.4	1.62	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4329-240814	SNP4323-240814	SNP435-240814	SNP4312-240814	----
				Client sampling date / time	14-Aug-2024 18:10	14-Aug-2024 18:29	14-Aug-2024 18:38	14-Aug-2024 18:48	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401192-006	YL2401192-007	YL2401192-008	YL2401192-009	--------
					Result	Result	Result	Result	----
Ion Balance									
Cation sum	----	EC101/VA	0.10	meq/L	29.1	36.5	39.6	1.52	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-1.19	-3.57	-1.00	-3.18	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	<0.0060 DLA	0.391	0.0833	0.0946	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.119	0.0874	0.0809	0.00191	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	3.69	0.155	0.109	0.0121	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0285	0.103	0.0895	0.0181	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000100	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000050	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.178	0.277	0.288	0.012	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000420	0.0000490	0.0000792	0.0000077	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	303	444	460	16.2	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000040	0.000112	0.000091	0.000016	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00020 DLA	0.00061	0.00026	0.00020	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00050	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00931	0.00398	0.00251	0.00012	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.0211	0.00810	0.00484	0.00188	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	<0.020 DLA	0.853	0.338	0.102	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000100 DLA	0.00368	0.00114	0.000245	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0293	0.0320	0.0321	0.0027	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	142	111	116	5.14	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0175	1.18	0.508	0.00770	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0208	0.00770	0.00766	0.000380	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.0114	0.0134	0.0108	0.00078	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.100 DLA	<0.100 DLA	<0.100 DLA	<0.050	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	9.71	12.6	13.0	1.34	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00502	0.0132	0.0132	0.00216	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000860	0.000192	0.000210	0.000083	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	4.76	1.00	0.42	0.69	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4329-240814	SNP4323-240814	SNP435-240814	SNP4312-240814	----
				Client sampling date / time	14-Aug-2024 18:10	14-Aug-2024 18:29	14-Aug-2024 18:38	14-Aug-2024 18:48	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401192-006	YL2401192-007	YL2401192-008	YL2401192-009	--------
					Result	Result	Result	Result	----
Total Metals									
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000020 DLA	0.000041	<0.000020 DLA	<0.000010	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	77.8	185	197	6.22	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	1.10	3.69	3.87	0.0968	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	398	401	435	7.94	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	0.00043	<0.00020	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00060 DLA	0.0161	<0.00360 DLM	0.00247	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00021	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00799	0.00162	0.00156	0.000282	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00180	<0.00100 DLA	<0.00100 DLA	<0.00050	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0180	0.0148	0.0148	<0.0030	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0049	0.0042	0.0046	0.0206	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.109	0.0823	0.0776	0.00158	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	3.67	0.0671	0.0612	0.00958	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0282	0.0946	0.0898	0.0169	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000050	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.175	0.240	0.279	0.011	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000485	0.0000222	0.0000848	<0.0000050	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	283	389	436	16.4	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000038	0.000057	0.000077	<0.000010	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00050	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00883	0.00329	0.00228	<0.00010	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.0208	0.00216	0.00378	0.00135	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.021	0.049	0.059	0.011	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4329-240814	SNP4323-240814	SNP435-240814	SNP4312-240814	----
				Client sampling date / time	14-Aug-2024 18:10	14-Aug-2024 18:29	14-Aug-2024 18:38	14-Aug-2024 18:48	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401192-006	YL2401192-007	YL2401192-008	YL2401192-009	--------
					Result	Result	Result	Result	----
Dissolved Metals									
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000100 DLA	0.000241	0.000200	<0.000050	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0287	0.0274	0.0315	0.0027	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	139	108	112	5.04	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.0178	1.16	0.478	0.00171	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.0198	0.00749	0.00762	0.000352	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.0110	0.0118	0.0103	0.00062	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.100 DLA	<0.100 DLA	<0.100 DLA	<0.050	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	9.46	12.6	13.0	1.28	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00488	0.0118	0.0125	0.00194	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000774	0.000168	0.000151	0.000051	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	4.64	0.166	0.244	0.574	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	75.8	181	191	5.77	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	1.03	3.61	3.78	0.0904	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	392	427	450	7.38	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00060 DLA	<0.00060 DLA	<0.00060 DLA	<0.00030	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00796	0.00156	0.00150	0.000267	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	0.00169	<0.00100 DLA	<0.00100 DLA	<0.00050	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0181	0.0084	0.0137	<0.0010	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	----
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4329-240814	SNP4323-240814	SNP435-240814	SNP4312-240814	----
				Client sampling date / time	14-Aug-2024 18:10	14-Aug-2024 18:29	14-Aug-2024 18:38	14-Aug-2024 18:48	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401192-006	YL2401192-007	YL2401192-008	YL2401192-009	--------
					Result	Result	Result	Result	----
Volatile Organic Compounds [Fuels]									
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Styrene	100-42-5	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Toluene	108-88-3	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	----	----	<0.00040	<0.00040	----
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	----	----	<0.00030	<0.00030	----
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	----	----	<0.00050	<0.00050	----
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	----	----	<0.10	<0.10	----
F2 (C10-C16)	----	E601/VA	0.10	mg/L	----	----	<0.10	<0.10	----
F3 (C16-C34)	----	E601/VA	0.25	mg/L	----	----	<0.25	<0.25	----
F4 (C34-C50)	----	E601/VA	0.25	mg/L	----	----	<0.25	<0.25	----
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	----	----	<0.38	<0.38	----
F1-BTEX	----	EC580/VA	0.100	mg/L	----	----	<0.100	<0.100	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	----	82.8	86.1	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	----	97.9	102	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	----	91.4	92.3	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	----	102	102	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401192**	Page	: 1 of 34
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 15-Aug-2024 15:30
PO	: YEL218	Issue Date	: 26-Aug-2024 16:05
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 9		
No. of samples analysed	: 9		

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) DUP-SNP4331-240814	E298	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4312-240814	E298	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4316-240814	E298	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4323-240814	E298	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4329-240814	E298	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4330-240814	E298	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4331-240814	E298	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-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
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4332-240814	E298	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP435-240814	E298	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE DUP-SNP4331-240814	E235.Br-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4312-240814	E235.Br-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4316-240814	E235.Br-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4323-240814	E235.Br-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4329-240814	E235.Br-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4330-240814	E235.Br-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4331-240814	E235.Br-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-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
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4332-240814	E235.Br-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP435-240814	E235.Br-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP-SNP4331-240814	E235.Cl	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4312-240814	E235.Cl	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4316-240814	E235.Cl	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4323-240814	E235.Cl	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4329-240814	E235.Cl	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4330-240814	E235.Cl	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4331-240814	E235.Cl	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-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
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4332-240814	E235.Cl	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP435-240814	E235.Cl	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-SNP4331-240814	E235.F	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4312-240814	E235.F	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4316-240814	E235.F	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4323-240814	E235.F	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4329-240814	E235.F	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4330-240814	E235.F	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4331-240814	E235.F	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-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
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4332-240814	E235.F	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP435-240814	E235.F	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE DUP-SNP4331-240814	E235.NO3-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4312-240814	E235.NO3-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4316-240814	E235.NO3-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4323-240814	E235.NO3-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4329-240814	E235.NO3-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4330-240814	E235.NO3-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4331-240814	E235.NO3-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-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 SNP4332-240814	E235.NO3-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP435-240814	E235.NO3-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE DUP-SNP4331-240814	E235.NO2-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4312-240814	E235.NO2-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4316-240814	E235.NO2-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4323-240814	E235.NO2-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4329-240814	E235.NO2-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4330-240814	E235.NO2-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4331-240814	E235.NO2-L	14-Aug-2024	19-Aug-2024	3 days	5 days	× EHT	20-Aug-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: Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis: Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4332-240814	E235.NO2-L	14-Aug-2024	19-Aug-2024	3 days	5 days	✖ EHT	20-Aug-2024	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP435-240814	E235.NO2-L	14-Aug-2024	19-Aug-2024	3 days	5 days	✖ EHT	20-Aug-2024	3 days	5 days	✖ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE DUP-SNP4331-240814	E392	14-Aug-2024	----	----	----		22-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4312-240814	E392	14-Aug-2024	----	----	----		22-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4316-240814	E392	14-Aug-2024	----	----	----		22-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4323-240814	E392	14-Aug-2024	----	----	----		22-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4329-240814	E392	14-Aug-2024	----	----	----		22-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4330-240814	E392	14-Aug-2024	----	----	----		22-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4331-240814	E392	14-Aug-2024	----	----	----		22-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP4332-240814	E392	14-Aug-2024	----	----	----		22-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP435-240814	E392	14-Aug-2024	----	----	----		22-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
DUP-SNP4331-240814	E235.SO4	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SNP4312-240814	E235.SO4	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SNP4316-240814	E235.SO4	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SNP4323-240814	E235.SO4	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SNP4329-240814	E235.SO4	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SNP4330-240814	E235.SO4	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SNP4331-240814	E235.SO4	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-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
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4332-240814	E235.SO4	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP435-240814	E235.SO4	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4312-240814	E372-U	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	23-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4316-240814	E372-U	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	23-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4323-240814	E372-U	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	23-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP435-240814	E372-U	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	23-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) DUP-SNP4331-240814	E421.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4312-240814	E421.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4316-240814	E421.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 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
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4323-240814	E421.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4329-240814	E421.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4330-240814	E421.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4331-240814	E421.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4332-240814	E421.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP435-240814	E421.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-SNP4331-240814	E509	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4312-240814	E509	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4316-240814	E509	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP4323-240814	E509	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP4329-240814	E509	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP4330-240814	E509	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP4331-240814	E509	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP4332-240814	E509	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP435-240814	E509	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
DUP-SNP4331-240814	E421	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SNP4312-240814	E421	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SNP4316-240814	E421	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 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
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4323-240814	E421	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4329-240814	E421	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4330-240814	E421	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4332-240814	E421	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP435-240814	E421	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4331-240814	E421	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP4312-240814	E601	14-Aug-2024	21-Aug-2024	14 days	6 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP435-240814	E601	14-Aug-2024	21-Aug-2024	14 days	6 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP4312-240814	E581.VH+F1	14-Aug-2024	21-Aug-2024	14 days	7 days	✓	21-Aug-2024	14 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
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP435-240814	E581.VH+F1	14-Aug-2024	21-Aug-2024	14 days	7 days	✓	21-Aug-2024	14 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) DUP-SNP4331-240814	E358-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4312-240814	E358-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4316-240814	E358-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4323-240814	E358-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4329-240814	E358-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4330-240814	E358-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4331-240814	E358-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4332-240814	E358-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SNP435-240814	E358-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
DUP-SNP4331-240814	E355-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4312-240814	E355-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4316-240814	E355-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4323-240814	E355-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4329-240814	E355-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4330-240814	E355-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4331-240814	E355-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4332-240814	E355-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-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
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP435-240814	E355-L	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	19-Aug-2024	28 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-SNP4331-240814	E290	14-Aug-2024	19-Aug-2024	14 days	5 days	✓	20-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4312-240814	E290	14-Aug-2024	19-Aug-2024	14 days	5 days	✓	20-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4316-240814	E290	14-Aug-2024	19-Aug-2024	14 days	5 days	✓	20-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4323-240814	E290	14-Aug-2024	19-Aug-2024	14 days	5 days	✓	20-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4329-240814	E290	14-Aug-2024	19-Aug-2024	14 days	5 days	✓	20-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4330-240814	E290	14-Aug-2024	19-Aug-2024	14 days	5 days	✓	20-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4331-240814	E290	14-Aug-2024	19-Aug-2024	14 days	5 days	✓	20-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4332-240814	E290	14-Aug-2024	19-Aug-2024	14 days	5 days	✓	20-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
Physical Tests : Alkalinity Species by Titration										
HDPE SNP435-240814	E290	14-Aug-2024	19-Aug-2024	14 days	5 days	✓	20-Aug-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-SNP4331-240814	E100	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4312-240814	E100	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4316-240814	E100	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4323-240814	E100	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4329-240814	E100	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4330-240814	E100	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4331-240814	E100	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4332-240814	E100	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-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
Physical Tests : Conductivity in Water										
HDPE SNP435-240814	E100	14-Aug-2024	19-Aug-2024	28 days	5 days	✓	20-Aug-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE SNP4312-240814	E108	14-Aug-2024	19-Aug-2024	0.25 hrs	121 hrs	✘ EHTR-FM	20-Aug-2024	0.25 hrs	137 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4323-240814	E108	14-Aug-2024	19-Aug-2024	0.25 hrs	122 hrs	✘ EHTR-FM	20-Aug-2024	0.25 hrs	137 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4329-240814	E108	14-Aug-2024	19-Aug-2024	0.25 hrs	122 hrs	✘ EHTR-FM	20-Aug-2024	0.25 hrs	137 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP435-240814	E108	14-Aug-2024	19-Aug-2024	0.25 hrs	122 hrs	✘ EHTR-FM	20-Aug-2024	0.25 hrs	137 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4316-240814	E108	14-Aug-2024	19-Aug-2024	0.25 hrs	122 hrs	✘ EHTR-FM	20-Aug-2024	0.25 hrs	138 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4332-240814	E108	14-Aug-2024	19-Aug-2024	0.25 hrs	123 hrs	✘ EHTR-FM	20-Aug-2024	0.25 hrs	138 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-SNP4331-240814	E108	14-Aug-2024	19-Aug-2024	0.25 hrs	123 hrs	✘ EHTR-FM	20-Aug-2024	0.25 hrs	139 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4331-240814	E108	14-Aug-2024	19-Aug-2024	0.25 hrs	123 hrs	✘ EHTR-FM	20-Aug-2024	0.25 hrs	139 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 SNP4330-240814	E108	14-Aug-2024	19-Aug-2024	0.25 hrs	124 hrs	✗ EHTR-FM	20-Aug-2024	0.25 hrs	139 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE DUP-SNP4331-240814	E162-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4312-240814	E162-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4316-240814	E162-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4323-240814	E162-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4329-240814	E162-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4330-240814	E162-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4331-240814	E162-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4332-240814	E162-L	14-Aug-2024	----	----	----		21-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 SNP435-240814	E162-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] DUP-SNP4331-240814	E160-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4312-240814	E160-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4316-240814	E160-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4323-240814	E160-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4329-240814	E160-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4330-240814	E160-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4331-240814	E160-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4332-240814	E160-L	14-Aug-2024	----	----	----		21-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] SNP435-240814	E160-L	14-Aug-2024	----	----	----		21-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4316-240814	E121	14-Aug-2024	----	----	----		20-Aug-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4332-240814	E121	14-Aug-2024	----	----	----		20-Aug-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-SNP4331-240814	E121	14-Aug-2024	----	----	----		20-Aug-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4312-240814	E121	14-Aug-2024	----	----	----		20-Aug-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4323-240814	E121	14-Aug-2024	----	----	----		20-Aug-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4329-240814	E121	14-Aug-2024	----	----	----		20-Aug-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4330-240814	E121	14-Aug-2024	----	----	----		20-Aug-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4331-240814	E121	14-Aug-2024	----	----	----		20-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Physical Tests : Turbidity by Nephelometry										
HDPE SNP435-240814	E121	14-Aug-2024	----	----	----		20-Aug-2024	3 days	6 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4316-240814	E420.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4329-240814	E420.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4330-240814	E420.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4331-240814	E420.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4332-240814	E420.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP435-240814	E420.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	21-Aug-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) DUP-SNP4331-240814	E420.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4312-240814	E420.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-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 Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4323-240814	E420.Cr-L	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-2024	180 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) DUP-SNP4331-240814	E508	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4312-240814	E508	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4316-240814	E508	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4323-240814	E508	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4329-240814	E508	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4330-240814	E508	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4331-240814	E508	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4332-240814	E508	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-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
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP435-240814	E508	14-Aug-2024	22-Aug-2024	28 days	7 days	✓	22-Aug-2024	28 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) DUP-SNP4331-240814	E420	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4312-240814	E420	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4316-240814	E420	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4323-240814	E420	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4329-240814	E420	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4330-240814	E420	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4331-240814	E420	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4332-240814	E420	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-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) SNP435-240814	E420	14-Aug-2024	21-Aug-2024	180 days	7 days	✓	22-Aug-2024	180 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP4312-240814	E611A	14-Aug-2024	21-Aug-2024	14 days	7 days	✓	21-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP435-240814	E611A	14-Aug-2024	21-Aug-2024	14 days	7 days	✓	21-Aug-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	1604682	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1604514	1	12	8.3	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1604688	1	17	5.8	5.0	✓
BTEX by Headspace GC-MS	E611A	1608603	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1604687	1	20	5.0	5.0	✓
Conductivity in Water	E100	1604680	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1604970	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1609522	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1604971	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1604512	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1604686	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1604684	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1604685	1	20	5.0	5.0	✓
pH by Meter	E108	1604681	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1611685	1	12	8.3	5.0	✓
Sulfate in Water by IC	E235.SO4	1604683	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1608266	1	9	11.1	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1604915	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1609482	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1604916	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1604513	1	12	8.3	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1604516	1	6	16.6	5.0	✓
Turbidity by Nephelometry	E121	1606738	2	38	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1608602	1	6	16.6	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1604682	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1604514	1	12	8.3	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1604688	1	17	5.8	5.0	✓
BTEX by Headspace GC-MS	E611A	1608603	1	4	25.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1607064	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1604687	1	20	5.0	5.0	✓
Conductivity in Water	E100	1604680	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1604970	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1609522	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1604971	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1604512	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							
Fluoride in Water by IC	E235.F	1604686	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1604684	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1604685	1	20	5.0	5.0	✓
pH by Meter	E108	1604681	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1611685	1	12	8.3	5.0	✓
Sulfate in Water by IC	E235.SO4	1604683	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1608266	1	9	11.1	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1604915	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1609482	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1604916	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1604513	1	12	8.3	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1604516	1	6	16.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1608276	1	9	11.1	5.0	✓
Turbidity by Nephelometry	E121	1606738	2	38	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1608602	1	6	16.6	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1604682	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1604514	1	12	8.3	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1604688	1	17	5.8	5.0	✓
BTEX by Headspace GC-MS	E611A	1608603	1	4	25.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1607064	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1604687	1	20	5.0	5.0	✓
Conductivity in Water	E100	1604680	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1604970	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1609522	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1604971	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1604512	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1604686	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1604684	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1604685	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1611685	1	12	8.3	5.0	✓
Sulfate in Water by IC	E235.SO4	1604683	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1608266	1	9	11.1	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1604915	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1609482	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1604916	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1604513	1	12	8.3	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1604516	1	6	16.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1608276	1	9	11.1	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*
Method Blanks (MB) - Continued							
Turbidity by Nephelometry	E121	1606738	2	38	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1608602	1	6	16.6	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1604514	1	12	8.3	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1604688	1	17	5.8	5.0	✓
BTEX by Headspace GC-MS	E611A	1608603	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1604687	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1604970	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1609522	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1604971	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1604512	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1604686	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1604684	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1604685	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1611685	1	12	8.3	5.0	✓
Sulfate in Water by IC	E235.SO4	1604683	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1604915	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1609482	1	19	5.2	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1604916	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1604513	1	12	8.3	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1604516	1	6	16.6	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1608602	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.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
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.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
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.
Fluoride in Water by IC	E235.F 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
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.
Reactive Silica by Colourimetry	E392 ALS Environmental - Vancouver	Water	APHA 4500-SiO2 E (mod)	Silicate (molybdate-reactive silica) is determined by the molybdosilicate-heteropoly blue colourimetric method using a discrete analyzer. Method Limitation: Arsenic (5+) above 100 mg/L is a negative interference on this test
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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L 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.
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.
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L ALS Environmental - Vancouver	Water	APHA 3030 B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS
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
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then 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.
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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Vancouver	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
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).
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 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 for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Vancouver			
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401192**	Page	: 1 of 21
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 15-Aug-2024 15:30
PO	: YEL218	Date Analysis Commenced	: 19-Aug-2024
C-O-C number	: ----	Issue Date	: 26-Aug-2024 16:05
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 9		
No. of samples analysed	: 9		

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
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Vancouver Inorganics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
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: 1604680)											
VA24C0705-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	237	238	0.421%	10%	----
Physical Tests (QC Lot: 1604681)											
VA24C0705-001	Anonymous	pH	----	E108	0.10	pH units	8.15	8.16	0.123%	4%	----
Physical Tests (QC Lot: 1604682)											
VA24C0705-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	91.4	90.2	1.32%	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	91.4	90.2	1.32%	20%	----
Physical Tests (QC Lot: 1606738)											
VA24C0854-010	Anonymous	Turbidity	----	E121	0.10	NTU	<0.10	<0.10	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1606917)											
VA24C0745-001	Anonymous	Turbidity	----	E121	0.10	NTU	8.37	8.46	1.07%	15%	----
Physical Tests (QC Lot: 1608266)											
YL2401192-001	SNP4330-240814	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	1720	1700	0.996%	20%	----
Anions and Nutrients (QC Lot: 1604514)											
FJ2402398-008	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0057	0.0056	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1604516)											
FJ2402398-008	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0091	0.0090	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1604683)											
VA24C0686-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	6.00	mg/L	1500	1520	1.10%	20%	----
Anions and Nutrients (QC Lot: 1604684)											
VA24C0686-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.100	mg/L	0.202	0.209	0.0063	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1604685)											
VA24C0686-001	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: 1604686)											
VA24C0686-001	Anonymous	Fluoride	16984-48-8	E235.F	0.400	mg/L	<0.400	<0.400	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1604687)											
VA24C0686-001	Anonymous	Chloride	16887-00-6	E235.Cl	10.0	mg/L	<10.0	<10.0	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: 1604688)											
VA24C0686-001	Anonymous	Bromide	24959-67-9	E235.Br-L	1.00	mg/L	<1.00	<1.00	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1611685)											
YL2401188-005	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	1.19	1.20	0.006	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1604512)											
VA24C0553-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	0.52	<0.50	0.02	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1604513)											
FJ2402398-008	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.11	1.24	0.14	Diff <2x LOR	----
Total Metals (QC Lot: 1604915)											
VA24C0490-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Total Metals (QC Lot: 1604916)											
VA24C0490-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0783	0.0932	17.4%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00477	0.00477	0.0274%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00309	0.00322	4.07%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0425	0.0424	0.304%	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	0.055	0.054	0.0007	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000480	0.0000436	0.0000044	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	18.6	18.6	0.0230%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.00110	0.00111	1.54%	20%	----
		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	0.00013	0.00014	0.000009	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00058	0.00057	0.000005	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.122	0.138	11.9%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000443	0.000458	0.000015	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0323	0.0314	2.75%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	1.23	1.25	1.34%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0309	0.0320	3.31%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00538	0.00538	0.104%	20%	----
		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	7.39	7.90	6.63%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00955	0.0100	4.62%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000490	0.000567	14.7%	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: 1604916) - continued											
VA24C0490-001	Anonymous	Silicon, total	7440-21-3	E420	0.10	mg/L	1.15	1.18	2.43%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000013	0.000015	0.000002	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	17.4	17.7	2.05%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.268	0.272	1.45%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	15.3	15.9	3.97%	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	0.000035	0.000036	0.0000009	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	0.00053	0.00090	0.00037	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00058	0.00060	0.00002	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000263	0.000264	0.518%	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	0.0034	0.0036	0.0002	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: 1609482)											
VA24C1207-011	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1604970)											
YL2401169-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00018	0.00018	0.000004	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1604971)											
YL2401169-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0210	0.0209	0.331%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.0382	0.0399	4.33%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	1.32	1.32	0.580%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0443	0.0436	1.64%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.025	0.025	0.0002	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	27.2	26.4	2.66%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000025	0.000026	0.000002	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00034	0.00031	0.00003	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.016	0.017	0.0006	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1604971) - continued											
YL2401169-001	Anonymous	Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0082	0.0081	0.00007	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	21.2	20.8	2.26%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00557	0.00554	0.588%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000140	0.000155	0.000015	Diff <2x LOR	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	4.13	4.02	2.60%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00649	0.00653	0.618%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000077	<0.000050	0.000027	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	0.124	0.124	0.0010	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	5.23	5.10	2.48%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.0807	0.0823	1.92%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	13.0	13.7	5.02%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00235	0.00242	3.02%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1609522)											
VA24C0517-005	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1609523)											
YL2401192-005	SNP4316-240814	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1608603)											
YL2401189-001	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	----
		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	<0.50	<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: 1608603) - continued											
YL2401189-001	Anonymous	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: 1608602)											
VA24C0971-001	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: 1604680)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1604682)						
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: 1606738)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1606917)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1608266)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1608276)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1604514)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1604516)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1604683)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1604684)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1604685)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1604686)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1604687)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1604688)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1611685)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1611685) - continued						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1604512)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1604513)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1604915)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1604916)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1604916) - continued						
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: 1609482)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1604970)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1604971)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1604971) - continued						
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1609522)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1609523)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1608603)						
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	----
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: 1607064)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1607064) - continued						
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 1608602)						
F1 (C6-C10)	----	E581.VH+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: 1604680)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	102	90.0	110	----
Physical Tests (QCLot: 1604681)									
pH	----	E108	----	pH units	7 pH units	99.8	98.0	102	----
Physical Tests (QCLot: 1604682)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	108	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1606738)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1606917)									
Turbidity	----	E121	0.1	NTU	200 NTU	96.5	85.0	115	----
Physical Tests (QCLot: 1608266)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	107	85.0	115	----
Physical Tests (QCLot: 1608276)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	89.8	85.0	115	----
Anions and Nutrients (QCLot: 1604514)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	94.9	85.0	115	----
Anions and Nutrients (QCLot: 1604516)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	93.8	80.0	120	----
Anions and Nutrients (QCLot: 1604683)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1604684)									
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: 1604685)									
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: 1604686)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	99.9	90.0	110	----
Anions and Nutrients (QCLot: 1604687)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1604688)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1611685)									

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
Anions and Nutrients (QCLot: 1611685) - continued									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	97.7	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1604512)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1604513)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	101	80.0	120	----
Total Metals (QCLot: 1604915)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Total Metals (QCLot: 1604916)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	107	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	95.9	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	105	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	100.0	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	89.6	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	102	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	98.4	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	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	93.8	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.9	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	97.2	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	104	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	96.7	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	99.9	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	103	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	106	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	101	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	105	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	88.2	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: 1604916) - continued									
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	94.0	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	96.8	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	96.0	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	97.7	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	97.4	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	99.5	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	99.1	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	100	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	108	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	97.4	80.0	120	----
Total Metals (QCLot: 1609482)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	98.3	80.0	120	----
Dissolved Metals (QCLot: 1604970)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	97.1	80.0	120	----
Dissolved Metals (QCLot: 1604971)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	104	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	94.7	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	103	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	101	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	100	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	94.0	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	100	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	102	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	96.6	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	97.1	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	97.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	97.0	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	98.1	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	98.9	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	98.5	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102	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
Dissolved Metals (QCLot: 1604971) - continued									
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	93.8	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	97.2	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	97.6	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	106	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	99.6	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	101	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	105	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	86.2	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	101	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	92.4	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	98.9	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	96.4	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	100	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	96.5	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	93.8	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	100	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.6	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	108	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	96.5	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	98.8	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	101	80.0	120	----
Volatile Organic Compounds (QCLot: 1608603)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	93.0	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	95.5	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	101	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	95.5	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	97.3	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	106	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	97.6	70.0	130	----
Hydrocarbons (QCLot: 1607064)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	114	70.0	130	----

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: 1607064) - continued									
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	107	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	114	70.0	130	----
Hydrocarbons (QCLot: 1608602)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 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: 1604514)										
FJ2402398-009	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0916 mg/L	0.1 mg/L	91.6	75.0	125	----
Anions and Nutrients (QCLot: 1604516)										
FJ2402398-009	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0452 mg/L	0.05 mg/L	90.4	70.0	130	----
Anions and Nutrients (QCLot: 1604683)										
VA24C0687-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1604684)										
VA24C0687-001	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: 1604685)										
VA24C0687-001	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: 1604686)										
VA24C0687-001	Anonymous	Fluoride	16984-48-8	E235.F	0.988 mg/L	1 mg/L	98.8	75.0	125	----
Anions and Nutrients (QCLot: 1604687)										
VA24C0687-001	Anonymous	Chloride	16887-00-6	E235.Cl	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1604688)										
VA24C0687-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.504 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1611685)										
YL2401188-006	Anonymous	Silicate (as SiO2)	7631-86-9	E392	9.96 mg/L	10 mg/L	99.6	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1604512)										
VA24C0553-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.95 mg/L	5 mg/L	98.9	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1604513)										
FJ2402398-009	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.68 mg/L	5 mg/L	114	70.0	130	----
Total Metals (QCLot: 1604915)										
VA24C0490-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0374 mg/L	0.04 mg/L	93.5	70.0	130	----
Total Metals (QCLot: 1604916)										
VA24C0490-002	Anonymous	Aluminum, total	7429-90-5	E420	0.185 mg/L	0.2 mg/L	92.6	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0181 mg/L	0.02 mg/L	90.5	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0198 mg/L	0.02 mg/L	99.2	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0366 mg/L	0.04 mg/L	91.4	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00971 mg/L	0.01 mg/L	97.1	70.0	130	----
		Boron, total	7440-42-8	E420	0.078 mg/L	0.1 mg/L	77.8	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00390 mg/L	0.004 mg/L	97.6	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: 1604916) - continued										
VA24C0490-002	Anonymous	Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00938 mg/L	0.01 mg/L	93.8	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0374 mg/L	0.04 mg/L	93.5	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0191 mg/L	0.02 mg/L	95.7	70.0	130	----
		Copper, total	7440-50-8	E420	0.0188 mg/L	0.02 mg/L	94.1	70.0	130	----
		Iron, total	7439-89-6	E420	1.90 mg/L	2 mg/L	95.1	70.0	130	----
		Lead, total	7439-92-1	E420	0.0195 mg/L	0.02 mg/L	97.4	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0798 mg/L	0.1 mg/L	79.8	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	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0376 mg/L	0.04 mg/L	94.1	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.24 mg/L	10 mg/L	92.4	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0187 mg/L	0.02 mg/L	93.7	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0408 mg/L	0.04 mg/L	102	70.0	130	----
		Silicon, total	7440-21-3	E420	9.59 mg/L	10 mg/L	95.9	70.0	130	----
		Silver, total	7440-22-4	E420	0.00359 mg/L	0.004 mg/L	89.8	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	18.0 mg/L	20 mg/L	90.1	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0364 mg/L	0.04 mg/L	91.1	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00389 mg/L	0.004 mg/L	97.2	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0215 mg/L	0.02 mg/L	107	70.0	130	----
		Tin, total	7440-31-5	E420	0.0186 mg/L	0.02 mg/L	92.8	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0373 mg/L	0.04 mg/L	93.4	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0200 mg/L	0.02 mg/L	100	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00406 mg/L	0.004 mg/L	101	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0970 mg/L	0.1 mg/L	97.0	70.0	130	----
		Zinc, total	7440-66-6	E420	0.407 mg/L	0.4 mg/L	102	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0391 mg/L	0.04 mg/L	97.6	70.0	130	----
Total Metals (QCLot: 1609482)										
VA24C1207-012	Anonymous	Mercury, total	7439-97-6	E508	0.0000996 mg/L	0 mg/L	99.6	70.0	130	----
Dissolved Metals (QCLot: 1604970)										
YL2401169-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0384 mg/L	0.04 mg/L	96.0	70.0	130	----
Dissolved Metals (QCLot: 1604971)										
YL2401169-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.192 mg/L	0.2 mg/L	95.9	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	ND mg/L	----	ND	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	ND mg/L	----	ND	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0382 mg/L	0.04 mg/L	95.5	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00900 mg/L	0.01 mg/L	90.0	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.087 mg/L	0.1 mg/L	87.0	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
Dissolved Metals (QCLot: 1604971) - continued										
YL2401169-002	Anonymous	Cadmium, dissolved	7440-43-9	E421	0.00387 mg/L	0.004 mg/L	96.7	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00936 mg/L	0.01 mg/L	93.6	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0384 mg/L	0.04 mg/L	96.0	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0191 mg/L	0.02 mg/L	95.7	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.90 mg/L	2 mg/L	94.8	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0185 mg/L	0.02 mg/L	92.4	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0881 mg/L	0.1 mg/L	88.1	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0184 mg/L	0.02 mg/L	92.2	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	10.0 mg/L	10 mg/L	100	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0197 mg/L	0.02 mg/L	98.6	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.53 mg/L	10 mg/L	95.3	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00356 mg/L	0.004 mg/L	89.1	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	18.4 mg/L	20 mg/L	92.2	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0366 mg/L	0.04 mg/L	91.6	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00370 mg/L	0.004 mg/L	92.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0174 mg/L	0.02 mg/L	87.0	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0182 mg/L	0.02 mg/L	90.8	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0190 mg/L	0.02 mg/L	95.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00385 mg/L	0.004 mg/L	96.2	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0986 mg/L	0.1 mg/L	98.6	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.409 mg/L	0.4 mg/L	102	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
Dissolved Metals (QCLot: 1609522)										
VA24C0517-006	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000923 mg/L	0 mg/L	92.3	70.0	130	----
Dissolved Metals (QCLot: 1609523)										
YL2401192-006	SNP4329-240814	Mercury, dissolved	7439-97-6	E509	0.0000978 mg/L	0 mg/L	97.8	70.0	130	----
Volatile Organic Compounds (QCLot: 1608603)										
YL2401189-001	Anonymous	Benzene	71-43-2	E611A	95.0 µg/L	100 µg/L	95.0	60.0	140	----
		Ethylbenzene	100-41-4	E611A	100 µg/L	100 µg/L	100	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Styrene	100-42-5	E611A	100 µg/L	100 µg/L	100	60.0	140	----
		Toluene	108-88-3	E611A	100 µg/L	100 µg/L	100	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	215 µg/L	200 µg/L	107	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: 1608603) - continued										
YL2401189-001	Anonymous	Xylene, o-	95-47-6	E611A	102 µg/L	100 µg/L	102	60.0	140	----
Hydrocarbons (QCLot: 1608602)										
VA24C0971-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5590 µg/L	6310 µg/L	88.6	60.0	140	----

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 669-8957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@rcaanc-cirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original Signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife, NT
X1A 0G5
Telephone: (867) 669-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:											As required - Marked on bottle										
√ = Field Filtered:											As required - Marked on bottle										
√ = Standard TAT:											√	√	√	√	√	√	√	√	√		
√ = 1-Day Rush:																					
Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Total Ammonia				
SNP4330-240814	SNP 43-30	14-Aug-24	16:24	Water			G	8	X	X	X										
SNP4331-240814	SNP 43-31	14-Aug-24	16:46	Water			G	8	X	X	X										
DUP-SNP4331-240814	SNP 43-31	14-Aug-24	16:46	Water			G	8	X	X	X										
SNP4332-240814	SNP 43-32	14-Aug-24	17:08	Water			G	8	X	X	X										
SNP4316-240814	SNP 43-16	14-Aug-24	17:48	Water			G	8	X	X	X		X								
SNP4329-240814	SNP 43-29	14-Aug-24	18:10	Water			G	8	X	X	X										
SNP4323-240814	SNP 43-23	14-Aug-24	18:29	Water			G	8	X	X	X		X								
SNP435-240814	SNP 43-5	14-Aug-24	18:38	Water			G	12	X	X	X	X	X								
SNP4312-240814	SNP 43-12	14-Aug-24	18:48	Water			G	12	X	X	X	X	X								

Environmental Division
Yellowknife
Work Order Reference
YL2401192

Telephone : +1 867 873 5593

Relinquished by (Sampler Signature): T. Kakfwi
Keenan Kakfwi
Date/Time: 2024-August-15 15:30
Company: SLR Consulting

Received by (Name): SYLVAIN ROURKE
Received by (Signature):
Company: ALS AUG 15/24
Sample Receipt Temperature (deg. C): 5.8

SAMPLE CONDITION (lab use only)
Samples Received in Good Condition? Yes / No (If no, provide details.)
On cooling media: Y / N

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401199**	Page	: 1 of 8
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 16-Aug-2024 13:16
PO	: YEL218	Date Analysis Commenced	: 20-Aug-2024
C-O-C number	: ----	Issue Date	: 27-Aug-2024 16:36
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 3		
No. of samples analysed	: 3		

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*
Chamoi Beckford	Lab Assistant	Metals, Burnaby, British Columbia
Daniela Ruiz	Account Manager Assistant	External Subcontracting, Yellowknife, Northwest Territories
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	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
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
CFU/100mL	colony forming units per hundred millilitres
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
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*
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**)

				Client sample ID	SNP4321-240816	RF-240816	SNP4321A-240816 High Arsenic	----	----
				Client sampling date / time	16-Aug-2024 10:14	16-Aug-2024 10:44	16-Aug-2024 12:13	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401199-001	YL2401199-002	YL2401199-003	--------	--------
					Result	Result	Result	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	187	205	184	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	187	205	184	----	----
Conductivity	----	E100/VA	1.0	µS/cm	3170	3190	3090	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1380	1420	1290	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1310	1410	1330	----	----
pH	----	E108/VA	0.10	pH units	7.52	7.60	7.88	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	2260	2320	2140	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	1.7	6.4	<1.0	----	----
Turbidity	----	E121/VA	0.10	NTU	2.71	33.6	0.76	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	1.18	4.09	0.760	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	5.79	5.41	5.92	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	478	449	486	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.400 DLDS	<0.400 DLDS	<0.400 DLDS	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.701	<0.100 DLDS	0.563	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.747	<0.102	0.599	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0458	<0.0200 DLDS	0.0362	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	11.9	13.4	11.5	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	914	1050	868	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	7.51	7.84	7.42	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	7.40	6.96	7.49	----	----
Microbiological Tests									

Analytical Results

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

				Client sample ID	SNP4321-240816	RF-240816	SNP4321A-240816 High Arsenic	----	----
				Client sampling date / time	16-Aug-2024 10:14	16-Aug-2024 10:44	16-Aug-2024 12:13	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401199-001	YL2401199-002	YL2401199-003	--------	--------
					Result	Result	Result	----	----
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	FC-MF/1Y	1.0	CFU/100mL	----	----	<1.0	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	36.4	38.7	35.6	----	----
Cation sum	----	EC101/VA	0.10	meq/L	35.8	36.7	33.8	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-0.83	-2.65	-2.59	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0350	<0.0150 DLA	<0.0300 DLA	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.560	0.153	0.657	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	19.0	11.0	21.5	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0455	0.0404	0.0486	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000200 DLA	<0.000100 DLA	<0.000200 DLA	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000500 DLA	<0.000250 DLA	<0.000500 DLA	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.346	0.457	0.343	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.000227	<0.0000250 DLA	0.000278	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	368	370	377	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000598	0.000103	0.000729	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00100 DLA	<0.00050 DLA	<0.00100 DLA	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00500 DLA	<0.00250 DLA	<0.00500 DLA	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.0360	0.0327	0.0391	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00500 DLA	<0.00250 DLA	<0.00500 DLA	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.834	3.16	0.293	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.00323	<0.000250 DLA	0.00382	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0339	0.0497	0.0336	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	95.0	118	93.8	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.563	0.862	0.536	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0181	0.0248	0.0177	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.0380	0.0181	0.0445	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.500 DLA	<0.250 DLA	<0.500 DLA	----	----

Analytical Results

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

				Client sample ID	SNP4321-240816	RF-240816	SNP4321A-240816 High Arsenic	----	----
				Client sampling date / time	16-Aug-2024 10:14	16-Aug-2024 10:44	16-Aug-2024 12:13	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401199-001	YL2401199-002	YL2401199-003	--------	--------
					Result	Result	Result	----	----
Total Metals									
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	12.2	14.5	11.8	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.0104	0.0103	0.0108	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000500 DLA	<0.000250 DLA	<0.000500 DLA	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	6.13	7.19	6.14	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000100 DLA	<0.000050 DLA	<0.000100 DLA	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	182	176	182	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	4.75	3.86	4.58	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	318	380	309	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00200 DLA	<0.00100 DLA	<0.00200 DLA	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000100 DLA	<0.000050 DLA	<0.000100 DLA	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00100 DLA	<0.00050 DLA	<0.00100 DLA	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00100 DLA	<0.00050 DLA	<0.00100 DLA	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00300 DLA	<0.00150 DLA	<0.00300 DLA	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00100 DLA	0.00055	<0.00100 DLA	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00647	0.00510	0.00599	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00500 DLA	<0.00250 DLA	<0.00500 DLA	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0582	<0.0150 DLA	0.0534	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00200 DLA	0.00101	<0.00200 DLA	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	<0.0100 DLA	<0.0050 DLA	<0.0100 DLA	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.541	0.133	0.608	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	17.4	10.7	22.2	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0460	0.0421	0.0498	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000200 DLA	<0.000100 DLA	<0.000200 DLA	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000500 DLA	<0.000250 DLA	<0.000500 DLA	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.325	0.362	0.274	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.000131	<0.0000250 DLA	0.000202	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	370	346	339	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000582	0.000101	0.000667	----	----

Analytical Results

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

				Client sample ID	SNP4321-240816	RF-240816	SNP4321A-240816 High Arsenic	----	----
				Client sampling date / time	16-Aug-2024 10:14	16-Aug-2024 10:44	16-Aug-2024 12:13	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401199-001	YL2401199-002	YL2401199-003	--------	--------
					Result	Result	Result	----	----
Dissolved Metals									
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00100 DLA	<0.00050 DLA	<0.00100 DLA	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00500 DLA	<0.00250 DLA	<0.00500 DLA	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.0364	0.0327	0.0390	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	<0.00200 DLA	<0.00100 DLA	0.00203	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.168	2.83	0.165	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	0.00240	<0.000250 DLA	0.00333	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0330	0.0431	0.0296	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	110	136	107	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.547	0.852	0.515	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.0173	0.0231	0.0169	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.0362	0.0172	0.0431	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.500 DLA	<0.250 DLA	<0.500 DLA	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	11.8	14.2	11.7	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.0112	0.0104	0.0100	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	<0.000500 DLA	<0.000250 DLA	<0.000500 DLA	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	6.06	6.75	5.82	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000100 DLA	<0.000050 DLA	<0.000100 DLA	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	180	172	178	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	4.47	3.53	4.13	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	310	359	297	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00200 DLA	<0.00100 DLA	<0.00200 DLA	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000100 DLA	<0.000050 DLA	<0.000100 DLA	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00100 DLA	<0.00050 DLM	<0.00100 DLA	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00100 DLA	<0.00050 DLA	<0.00100 DLA	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00300 DLA	<0.00150 DLA	<0.00300 DLA	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00100 DLA	0.00055	<0.00100 DLA	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00619	0.00504	0.00574	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00500 DLA	<0.00250 DLA	<0.00500 DLA	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321-240816	RF-240816	SNP4321A-240816 High Arsenic	----	----
				Client sampling date / time	16-Aug-2024 10:14	16-Aug-2024 10:44	16-Aug-2024 12:13	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401199-001	YL2401199-002	YL2401199-003	--------	--------
					Result	Result	Result	----	----
Dissolved Metals									
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0519	<0.0050 DLA	0.0508	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00200 DLA	<0.00100 DLA	<0.00200 DLA	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	----	----
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Styrene	100-42-5	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Toluene	108-88-3	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	----	----	<0.00040	----	----
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	----	----	<0.00030	----	----
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	----	----	<0.10	----	----
F2 (C10-C16)	----	E601/VA	0.10	mg/L	----	----	<0.10	----	----
F3 (C16-C34)	----	E601/VA	0.25	mg/L	----	----	<0.25	----	----
F4 (C34-C50)	----	E601/VA	0.25	mg/L	----	----	<0.25	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	----	----	<0.38	----	----
F1-BTEX	----	EC580/VA	0.100	mg/L	----	----	<0.100	----	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	----	85.3	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	----	112	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	----	83.2	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	----	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401199**	Page	: 1 of 19
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 16-Aug-2024 13:16
PO	: YEL218	Issue Date	: 27-Aug-2024 16:36
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 3		
No. of samples analysed	: 3		

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

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

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) SNP4321A-240816 - High Arsenic	E298	16-Aug-2024	21-Aug-2024	28 days	5 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) RF-240816	E298	16-Aug-2024	21-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4321-240816	E298	16-Aug-2024	21-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE RF-240816	E235.Br-L	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4321-240816	E235.Br-L	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4321A-240816 - High Arsenic	E235.Br-L	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE RF-240816	E235.Cl	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-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
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4321-240816	E235.Cl	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4321A-240816 - High Arsenic	E235.Cl	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE RF-240816	E235.F	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4321-240816	E235.F	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4321A-240816 - High Arsenic	E235.F	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE RF-240816	E235.NO3-L	16-Aug-2024	22-Aug-2024	3 days	6 days	✖ EHT	22-Aug-2024	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4321-240816	E235.NO3-L	16-Aug-2024	22-Aug-2024	3 days	6 days	✖ EHT	22-Aug-2024	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4321A-240816 - High Arsenic	E235.NO3-L	16-Aug-2024	22-Aug-2024	3 days	6 days	✖ EHT	22-Aug-2024	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE RF-240816	E235.NO2-L	16-Aug-2024	22-Aug-2024	3 days	6 days	✖ EHT	22-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP4321-240816	E235.NO2-L	16-Aug-2024	22-Aug-2024	3 days	6 days	✗ EHT	22-Aug-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP4321A-240816 - High Arsenic	E235.NO2-L	16-Aug-2024	22-Aug-2024	3 days	6 days	✗ EHT	22-Aug-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
RF-240816	E392	16-Aug-2024	----	----	----		25-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP4321-240816	E392	16-Aug-2024	----	----	----		25-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP4321A-240816 - High Arsenic	E392	16-Aug-2024	----	----	----		25-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
RF-240816	E235.SO4	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SNP4321-240816	E235.SO4	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SNP4321A-240816 - High Arsenic	E235.SO4	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
RF-240816	E421.Cr-L	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-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 Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4321-240816	E421.Cr-L	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4321A-240816 - High Arsenic	E421.Cr-L	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) RF-240816	E509	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4321-240816	E509	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4321A-240816 - High Arsenic	E509	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) RF-240816	E421	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4321-240816	E421	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4321A-240816 - High Arsenic	E421	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-Aug-2024	180 days	6 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP4321A-240816 - High Arsenic	E601	16-Aug-2024	22-Aug-2024	14 days	6 days	✓	22-Aug-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 : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP4321A-240816 - High Arsenic	E581.VH+F1	16-Aug-2024	22-Aug-2024	14 days	6 days	✓	22-Aug-2024	14 days	6 days	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) SNP4321A-240816 - High Arsenic	FC-MF	16-Aug-2024	----	----	----		20-Aug-2024	30 hrs	98 hrs	× EHT
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4321A-240816 - High Arsenic	E358-L	16-Aug-2024	21-Aug-2024	28 days	5 days	✓	22-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) RF-240816	E358-L	16-Aug-2024	21-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4321-240816	E358-L	16-Aug-2024	21-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4321A-240816 - High Arsenic	E355-L	16-Aug-2024	21-Aug-2024	28 days	5 days	✓	22-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) RF-240816	E355-L	16-Aug-2024	21-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4321-240816	E355-L	16-Aug-2024	21-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE RF-240816	E290	16-Aug-2024	22-Aug-2024	14 days	6 days	✓	22-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
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4321-240816	E290	16-Aug-2024	22-Aug-2024	14 days	6 days	✓	22-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4321A-240816 - High Arsenic	E290	16-Aug-2024	22-Aug-2024	14 days	6 days	✓	22-Aug-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE RF-240816	E100	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4321-240816	E100	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4321A-240816 - High Arsenic	E100	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE SNP4321A-240816 - High Arsenic	E108	16-Aug-2024	22-Aug-2024	0.25 hrs	144 hrs	✖ EHTR-FM	22-Aug-2024	0.25 hrs	144 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE RF-240816	E108	16-Aug-2024	22-Aug-2024	0.25 hrs	146 hrs	✖ EHTR-FM	22-Aug-2024	0.25 hrs	146 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4321-240816	E108	16-Aug-2024	22-Aug-2024	0.25 hrs	146 hrs	✖ EHTR-FM	22-Aug-2024	0.25 hrs	146 hrs	✖ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE RF-240816	E162-L	16-Aug-2024	----	----	----		22-Aug-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
SNP4321-240816	E162-L	16-Aug-2024	----	----	----		22-Aug-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
SNP4321A-240816 - High Arsenic	E162-L	16-Aug-2024	----	----	----		22-Aug-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
RF-240816	E160-L	16-Aug-2024	----	----	----		22-Aug-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP4321-240816	E160-L	16-Aug-2024	----	----	----		22-Aug-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP4321A-240816 - High Arsenic	E160-L	16-Aug-2024	----	----	----		22-Aug-2024	7 days	6 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
RF-240816	E121	16-Aug-2024	----	----	----		22-Aug-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
SNP4321-240816	E121	16-Aug-2024	----	----	----		22-Aug-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
SNP4321A-240816 - High Arsenic	E121	16-Aug-2024	----	----	----		22-Aug-2024	3 days	6 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved)										
RF-240816	E420.Cr-L	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-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
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4321-240816	E420.Cr-L	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-Aug-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4321A-240816 - High Arsenic	E420.Cr-L	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-Aug-2024	180 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) RF-240816	E508	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4321-240816	E508	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4321A-240816 - High Arsenic	E508	16-Aug-2024	22-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) RF-240816	E420	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4321-240816	E420	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4321A-240816 - High Arsenic	E420	16-Aug-2024	22-Aug-2024	180 days	6 days	✓	22-Aug-2024	180 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP4321A-240816 - High Arsenic	E611A	16-Aug-2024	22-Aug-2024	14 days	6 days	✓	22-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	1610425	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1609379	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1610429	1	19	5.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1610600	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1610428	1	19	5.2	5.0	✓
Conductivity in Water	E100	1610426	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1609198	1	3	33.3	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1610589	2	21	9.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1609197	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1609384	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1610427	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1610430	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1610431	1	20	5.0	5.0	✓
pH by Meter	E108	1610424	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1610432	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1611391	1	3	33.3	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1609196	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1610399	1	15	6.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1609195	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1609385	1	13	7.6	5.0	✓
Turbidity by Nephelometry	E121	1611569	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1610599	1	18	5.5	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1610425	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1609379	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1610429	1	19	5.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1610600	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1609467	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1610428	1	19	5.2	5.0	✓
Conductivity in Water	E100	1610426	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1609198	1	3	33.3	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1610589	2	21	9.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1609197	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1609384	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1610427	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1610430	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							
Nitrite in Water by IC (Low Level)	E235.NO2-L	1610431	1	20	5.0	5.0	✓
pH by Meter	E108	1610424	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1610432	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1611391	1	3	33.3	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1609196	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1610399	1	15	6.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1609195	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1609385	1	13	7.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1611367	1	11	9.0	5.0	✓
Turbidity by Nephelometry	E121	1611569	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1610599	1	18	5.5	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1610425	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1609379	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1610429	1	19	5.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1610600	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1609467	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1610428	1	19	5.2	5.0	✓
Conductivity in Water	E100	1610426	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1609198	1	3	33.3	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1610589	2	21	9.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1609197	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1609384	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1610427	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1610430	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1610431	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1610432	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1611391	1	3	33.3	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1609196	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1610399	1	15	6.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1609195	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1609385	1	13	7.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1611367	1	11	9.0	5.0	✓
Turbidity by Nephelometry	E121	1611569	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1610599	1	18	5.5	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1609379	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1610429	1	19	5.2	5.0	✓
BTEX by Headspace GC-MS	E611A	1610600	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*
Matrix Spikes (MS) - Continued							
Chloride in Water by IC	E235.Cl	1610428	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1609198	1	3	33.3	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1610589	1	21	4.7	5.0	×
Dissolved Metals in Water by CRC ICPMS	E421	1609197	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1609384	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1610427	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1610430	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1610431	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1610432	1	19	5.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1609196	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1610399	1	15	6.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1609195	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1609385	1	13	7.6	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1610599	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.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
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.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
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.
Fluoride in Water by IC	E235.F 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and 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 DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Reactive Silica by Colourimetry	E392 ALS Environmental - Vancouver	Water	APHA 4500-SiO_2 E (mod)	Silicate (molybdate-reactive silica) is determined by the molybdosilicate-heteropoly blue colourimetric method using a discrete analyzer. Method Limitation: Arsenic (5+) above 100 mg/L is a negative interference on this test
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 Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L ALS Environmental - Vancouver	Water	APHA 3030 B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS
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
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then 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.
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 $CaCO_3$), 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Vancouver	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
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).
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.
Fecal Coliforms in Water by MF	FC-MF Taiga Environmental Laboratory - 4601 - 52nd Avenue P.O. BOX 1500 Yellowknife Northwest Territories Canada X1A 2R3	Water	APHA 9222D	See attached report.

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 for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401199**	Page	: 1 of 19
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 16-Aug-2024 13:16
PO	: YEL218	Date Analysis Commenced	: 20-Aug-2024
C-O-C number	: ----	Issue Date	: 27-Aug-2024 16:36
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 3		
No. of samples analysed	: 3		

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*
Chamoi Beckford	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Daniela Ruiz	Account Manager Assistant	Taiga Environmental Laboratory External Subcontracting, Yellowknife, Northwest Territories
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	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: 1610424)											
VA24C0990-003	Anonymous	pH	----	E108	0.10	pH units	5.36	5.33	0.561%	4%	----
Physical Tests (QC Lot: 1610425)											
VA24C0990-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	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	<1.0	<1.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1610426)											
VA24C0990-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	<2.0	<2.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1611391)											
YL2401199-001	SNP4321-240816	Solids, total dissolved [TDS]	----	E162-L	6.0	mg/L	2260	2480	9.08%	20%	----
Physical Tests (QC Lot: 1611569)											
VA24C1270-002	Anonymous	Turbidity	----	E121	0.10	NTU	0.34	0.32	0.01	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1609379)											
FJ2402417-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0500	mg/L	1.16	1.17	1.15%	20%	----
Anions and Nutrients (QC Lot: 1610427)											
VA24C0990-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.069	0.067	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1610428)											
VA24C0990-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1610429)											
VA24C0990-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1610430)											
VA24C0990-001	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: 1610431)											
VA24C0990-001	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: 1610432)											
VA24C0990-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	13.5	13.5	0.118%	20%	----
Organic / Inorganic Carbon (QC Lot: 1609384)											
FJ2402433-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.20	1.16	0.04	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Organic / Inorganic Carbon (QC Lot: 1609385)											
FJ2402433-003	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.17	1.14	0.03	Diff <2x LOR	----
Total Metals (QC Lot: 1609195)											
YL2401199-001	SNP4321-240816	Aluminum, total	7429-90-5	E420	0.0300	mg/L	0.0350	0.0385	0.0036	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00100	mg/L	0.560	0.553	1.29%	20%	----
		Arsenic, total	7440-38-2	E420	0.00100	mg/L	19.0	18.7	1.63%	20%	----
		Barium, total	7440-39-3	E420	0.00100	mg/L	0.0455	0.0449	1.25%	20%	----
		Beryllium, total	7440-41-7	E420	0.000200	mg/L	<0.000200	<0.000200	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000500	mg/L	<0.000500	<0.000500	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.100	mg/L	0.346	0.345	0.001	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000500	mg/L	0.000227	0.000223	0.0000042	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.500	mg/L	368	361	1.96%	20%	----
		Cesium, total	7440-46-2	E420	0.000100	mg/L	0.000598	0.000576	0.000022	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00100	mg/L	0.0360	0.0358	0.616%	20%	----
		Copper, total	7440-50-8	E420	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.100	mg/L	0.834	0.810	0.024	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000500	mg/L	0.00323	0.00319	0.000042	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0100	mg/L	0.0339	0.0343	0.0004	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0500	mg/L	95.0	93.2	1.96%	20%	----
		Manganese, total	7439-96-5	E420	0.00100	mg/L	0.563	0.566	0.503%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000500	mg/L	0.0181	0.0180	0.429%	20%	----
		Nickel, total	7440-02-0	E420	0.00500	mg/L	0.0380	0.0372	0.00076	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.500	mg/L	<0.500	<0.500	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.500	mg/L	12.2	12.1	0.812%	20%	----
		Rubidium, total	7440-17-7	E420	0.00200	mg/L	0.0104	0.00940	0.00103	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000500	mg/L	<0.000500	<0.000500	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	1.00	mg/L	6.13	6.07	0.06	Diff <2x LOR	----
		Silver, total	7440-22-4	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.500	mg/L	182	183	0.852%	20%	----
		Strontium, total	7440-24-6	E420	0.00200	mg/L	4.75	4.65	2.12%	20%	----
		Sulfur, total	7704-34-9	E420	5.00	mg/L	318	310	2.76%	20%	----
		Tellurium, total	13494-80-9	E420	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1609195) - continued											
YL2401199-001	SNP4321-240816	Tin, total	7440-31-5	E420	0.00100	mg/L	<0.00100	<0.00100	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	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000100	mg/L	0.00647	0.00638	1.45%	20%	----
		Vanadium, total	7440-62-2	E420	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0300	mg/L	0.0582	0.0552	0.0030	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	----
Total Metals (QC Lot: 1609196)											
YL2401199-001	SNP4321-240816	Chromium, total	7440-47-3	E420.Cr-L	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
Total Metals (QC Lot: 1610399)											
VA24C0638-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	0.0000050	0.0000056	0.0000006	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1609197)											
YL2401199-001	SNP4321-240816	Aluminum, dissolved	7429-90-5	E421	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00100	mg/L	0.541	0.530	2.03%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00100	mg/L	17.4	17.7	1.57%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00100	mg/L	0.0460	0.0448	2.60%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000200	mg/L	<0.000200	<0.000200	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000500	mg/L	<0.000500	<0.000500	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.100	mg/L	0.325	0.301	0.024	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000500	mg/L	0.000131	0.000139	0.0000084	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.500	mg/L	370	371	0.309%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000100	mg/L	0.000582	0.000585	0.000003	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00100	mg/L	0.0364	0.0368	1.20%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.100	mg/L	0.168	0.173	0.005	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000500	mg/L	0.00240	0.00239	0.000004	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0100	mg/L	0.0330	0.0332	0.0001	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0500	mg/L	110	114	3.41%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00100	mg/L	0.547	0.560	2.44%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000500	mg/L	0.0173	0.0170	1.59%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00500	mg/L	0.0362	0.0359	0.00033	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.500	mg/L	<0.500	<0.500	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.500	mg/L	11.8	12.1	1.85%	20%	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1609197) - continued											
YL2401199-001	SNP4321-240816	Rubidium, dissolved	7440-17-7	E421	0.00200	mg/L	0.0112	0.0101	0.00110	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000500	mg/L	<0.000500	<0.000500	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.500	mg/L	6.06	5.70	6.02%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.500	mg/L	180	180	0.124%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00200	mg/L	4.47	4.34	3.07%	20%	----
		Sulfur, dissolved	7704-34-9	E421	5.00	mg/L	310	312	0.508%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00300	mg/L	<0.00300	<0.00300	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000100	mg/L	0.00619	0.00633	2.18%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0100	mg/L	0.0519	0.0509	0.0010	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1609198)											
YL2401199-001	SNP4321-240816	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1610589)											
VA24C0781-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1610590)											
YL2401199-003	SNP4321A-240816 High Arsenic	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1610600)											
VA24C0488-001	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	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	25.2	25.0	0.703%	30%	----
		Styrene	100-42-5	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	0.41	<0.40	0.007	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1610599)											
VA24C0488-001	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: 1610425)						
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: 1610426)						
Conductivity	----	E100	1	µS/cm	1.3	----
Physical Tests (QCLot: 1611367)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1611391)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1611569)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1609379)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1610427)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1610428)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1610429)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1610430)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1610431)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1610432)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Organic / Inorganic Carbon (QCLot: 1609384)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1609385)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1609195)						
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: 1609195) - 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: 1609196)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1610399)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1609197)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1609197) - continued						
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1609198)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1610589)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1610590)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1610600)						
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	----
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: 1609467)						
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: 1610599)						
F1 (C6-C10)	----	E581.VH+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: 1610424)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1610425)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	111	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1610426)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	100	90.0	110	----
Physical Tests (QCLot: 1611367)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	88.8	85.0	115	----
Physical Tests (QCLot: 1611391)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1611569)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Anions and Nutrients (QCLot: 1609379)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1610427)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	99.9	90.0	110	----
Anions and Nutrients (QCLot: 1610428)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1610429)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1610430)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1610431)									
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: 1610432)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	104	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1609384)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1609385)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	106	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: 1609195)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	95.0	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	101	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	100	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	97.4	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	98.6	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	99.0	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	97.6	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	97.7	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	100	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	98.6	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	100.0	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	96.8	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.3	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	99.2	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	97.0	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	96.3	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	98.8	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	93.3	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	100	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	98.5	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	99.1	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	103	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	94.0	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	95.9	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	101	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	94.2	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	99.0	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	99.6	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.6	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	93.0	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 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
Total Metals (QCLot: 1609195) - continued									
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	97.7	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	97.7	80.0	120	----
Total Metals (QCLot: 1609196)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	100.0	80.0	120	----
Total Metals (QCLot: 1610399)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	96.2	80.0	120	----
Dissolved Metals (QCLot: 1609197)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	98.4	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	90.8	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	102	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	96.6	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	103	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	83.1	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	99.3	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	97.4	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	93.8	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	98.7	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	97.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	96.5	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	95.9	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	100	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	91.0	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	103	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	97.8	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	93.6	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	96.1	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	102	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	98.9	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	105	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	108	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	83.8	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
Dissolved Metals (QCLot: 1609197) - continued									
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	96.1	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	89.6	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	112	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	88.7	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	102	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	99.0	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	93.5	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	93.0	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	101	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	101	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.2	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	103	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	93.0	80.0	120	----
Dissolved Metals (QCLot: 1609198)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	98.7	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	97.0	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	99.0	80.0	120	----
Volatile Organic Compounds (QCLot: 1610600)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	102	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	106	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	104	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	105	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	109	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	106	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	105	70.0	130	----
Hydrocarbons (QCLot: 1609467)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	119	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	114	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	121	70.0	130	----
Hydrocarbons (QCLot: 1610599)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	108	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: 1609379)										
FJ2402417-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1610427)										
VA24C0990-002	Anonymous	Fluoride	16984-48-8	E235.F	1.03 mg/L	1 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1610428)										
VA24C0990-002	Anonymous	Chloride	16887-00-6	E235.Cl	106 mg/L	100 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 1610429)										
VA24C0990-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.507 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1610430)										
VA24C0990-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.66 mg/L	2.5 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 1610431)										
VA24C0990-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.514 mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1610432)										
VA24C0990-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1609384)										
FJ2402433-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.30 mg/L	5 mg/L	106	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1609385)										
FJ2402433-004	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.35 mg/L	5 mg/L	107	70.0	130	----
Total Metals (QCLot: 1609195)										
YL2401199-002	RF-240816	Aluminum, total	7429-90-5	E420	0.916 mg/L	1 mg/L	91.6	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	0.0954 mg/L	0.1 mg/L	95.4	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.190 mg/L	0.2 mg/L	94.8	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0467 mg/L	0.05 mg/L	93.4	70.0	130	----
		Boron, total	7440-42-8	E420	0.451 mg/L	0.5 mg/L	90.1	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.0191 mg/L	0.02 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	0.0485 mg/L	0.05 mg/L	97.1	70.0	130	----
		Chromium, total	7440-47-3	E420	0.191 mg/L	0.2 mg/L	95.6	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0903 mg/L	0.1 mg/L	90.3	70.0	130	----
		Copper, total	7440-50-8	E420	0.0895 mg/L	0.1 mg/L	89.5	70.0	130	----
		Iron, total	7439-89-6	E420	9.22 mg/L	10 mg/L	92.2	70.0	130	----
		Lead, total	7439-92-1	E420	0.0918 mg/L	0.1 mg/L	91.8	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: 1609195) - continued										
YL2401199-002	RF-240816	Lithium, total	7439-93-2	E420	0.463 mg/L	0.5 mg/L	92.7	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	0.0970 mg/L	0.1 mg/L	97.0	70.0	130	----
		Nickel, total	7440-02-0	E420	0.180 mg/L	0.2 mg/L	90.1	70.0	130	----
		Phosphorus, total	7723-14-0	E420	48.2 mg/L	50 mg/L	96.4	70.0	130	----
		Potassium, total	7440-09-7	E420	17.3 mg/L	20 mg/L	86.4	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0958 mg/L	0.1 mg/L	95.8	70.0	130	----
		Selenium, total	7782-49-2	E420	0.190 mg/L	0.2 mg/L	95.2	70.0	130	----
		Silicon, total	7440-21-3	E420	44.7 mg/L	50 mg/L	89.4	70.0	130	----
		Silver, total	7440-22-4	E420	0.0192 mg/L	0.02 mg/L	96.1	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	0.180 mg/L	0.2 mg/L	90.1	70.0	130	----
		Thallium, total	7440-28-0	E420	0.0185 mg/L	0.02 mg/L	92.3	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0912 mg/L	0.1 mg/L	91.2	70.0	130	----
		Tin, total	7440-31-5	E420	0.0971 mg/L	0.1 mg/L	97.1	70.0	130	----
		Titanium, total	7440-32-6	E420	0.187 mg/L	0.2 mg/L	93.4	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0942 mg/L	0.1 mg/L	94.2	70.0	130	----
		Uranium, total	7440-61-1	E420	0.0196 mg/L	0.02 mg/L	97.8	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.475 mg/L	0.5 mg/L	94.9	70.0	130	----
		Zinc, total	7440-66-6	E420	1.84 mg/L	2 mg/L	91.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.196 mg/L	0.2 mg/L	98.3	70.0	130	----
Total Metals (QCLot: 1609196)										
YL2401199-002	RF-240816	Chromium, total	7440-47-3	E420.Cr-L	0.191 mg/L	0.2 mg/L	95.6	70.0	130	----
Total Metals (QCLot: 1610399)										
VA24C0638-002	Anonymous	Mercury, total	7439-97-6	E508	0.000103 mg/L	0 mg/L	103	70.0	130	----
Dissolved Metals (QCLot: 1609197)										
YL2401199-002	RF-240816	Aluminum, dissolved	7429-90-5	E421	1.07 mg/L	1 mg/L	107	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	ND mg/L	----	ND	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	ND mg/L	----	ND	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.104 mg/L	0.1 mg/L	104	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.198 mg/L	0.2 mg/L	99.1	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0475 mg/L	0.05 mg/L	95.0	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.401 mg/L	0.5 mg/L	80.2	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.0198 mg/L	0.02 mg/L	98.8	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0509 mg/L	0.05 mg/L	102	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.206 mg/L	0.2 mg/L	103	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0968 mg/L	0.1 mg/L	96.8	70.0	130	----
		Iron, dissolved	7439-89-6	E421	9.90 mg/L	10 mg/L	99.0	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
Dissolved Metals (QCLot: 1609197) - continued										
YL2401199-002	RF-240816	Lead, dissolved	7439-92-1	E421	0.0973 mg/L	0.1 mg/L	97.3	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.464 mg/L	0.5 mg/L	92.7	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.103 mg/L	0.1 mg/L	103	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.197 mg/L	0.2 mg/L	98.4	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	57.6 mg/L	50 mg/L	115	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	20.0 mg/L	20 mg/L	99.9	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.103 mg/L	0.1 mg/L	103	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.211 mg/L	0.2 mg/L	106	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	47.8 mg/L	50 mg/L	95.5	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.0180 mg/L	0.02 mg/L	90.1	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.204 mg/L	0.2 mg/L	102	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.0195 mg/L	0.02 mg/L	97.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0899 mg/L	0.1 mg/L	89.9	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.102 mg/L	0.1 mg/L	102	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.197 mg/L	0.2 mg/L	98.4	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.103 mg/L	0.1 mg/L	103	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.0198 mg/L	0.02 mg/L	99.1	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.528 mg/L	0.5 mg/L	106	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	2.11 mg/L	2 mg/L	105	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.205 mg/L	0.2 mg/L	102	70.0	130	----
Dissolved Metals (QCLot: 1609198)										
YL2401199-002	RF-240816	Chromium, dissolved	7440-47-3	E421.Cr-L	0.206 mg/L	0.2 mg/L	103	70.0	130	----
Dissolved Metals (QCLot: 1610589)										
VA24C0862-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000917 mg/L	0 mg/L	91.7	70.0	130	----
Volatile Organic Compounds (QCLot: 1610600)										
VA24C0488-002	Anonymous	Benzene	71-43-2	E611A	100 µg/L	100 µg/L	100	60.0	140	----
		Ethylbenzene	100-41-4	E611A	100 µg/L	100 µg/L	100	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	104 µg/L	100 µg/L	104	60.0	140	----
		Styrene	100-42-5	E611A	101 µg/L	100 µg/L	101	60.0	140	----
		Toluene	108-88-3	E611A	105 µg/L	100 µg/L	105	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	210 µg/L	200 µg/L	105	60.0	140	----
		Xylene, o-	95-47-6	E611A	101 µg/L	100 µg/L	101	60.0	140	----
Hydrocarbons (QCLot: 1610599)										
VA24C0488-003	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5990 µg/L	6310 µg/L	94.9	60.0	140	----

Taiga Batch No.:
241244

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4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
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- FINAL REPORT -

Prepared For: ALS Environmental

Address: 314 Old Airport Road
Unit 116
Yellowknife,NT
X1A 2R1

Attn: **Oliver Gregg** **Facsimile:**

Final report has been reviewed and approved by:

Shalene Manickum
Laboratory Manager

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Tuesday, August 20, 2024
Print Date: *Tuesday, August 20, 2024*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: 241244

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401199-003 SNP4321A-240816 **Taiga Sample ID:** 001

Client Project:
Sample Type: Water
Received Date: 16-Aug-24
Sampling Date: 16-Aug-24
Sampling Time: 12:13
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	16-Aug-24	TEL017	

ReportDate: Tuesday, August 20, 2024
Print Date: *Tuesday, August 20, 2024*

Taiga Environmental Laboratory
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.: **241244**

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **YL2401199-003 SNP4321A-240816** **Taiga Sample ID:** **001**

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater
EPA - United States Environmental Protection Agency

ReportDate: Tuesday, August 20, 2024
Print Date: *Tuesday, August 20, 2024*

Environmental Division
Yellowknife
Work Order Reference
YL2401199

Telephone : +1 867 873 5593

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 18 Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 689-8957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116 Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
sparkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@rcaanc-cirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
kkakfw@slrconsulting.com

Send Original Signed Lab Reports To:
COMPANY: SLR Consulting
18 Coronation Drive, Yellowknife, NT X1A 0G5
Telephone: (867) 689-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facility Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:																							
√ = Field Filtered:																							
√ = Standard TAT:																							
√ = 1-Day Rush:																							

Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Total Ammonia
									As required - Marked on bottle								
									As required - Marked on bottle								
									√	√	√	√	√	√	√	√	√
SNP4321-240816	SNP 43-21	16-Aug-24	10:14	Water			G	8	X	X	X						
RF-240816	Rainforest	16-Aug-24	10:44	Water			G	8	X	X	X						
SNP4321A-240816	SNP 43-21A	16-Aug-24	12:13	Water		HIGH ARSENIC	C	13	X	X	X	X			X		

Relinquished by (Sampler Signature): Keenan Kakfwi — T. Kakfwi
Date/Time: 2024-August-16 13:16
Company: SLR Consulting

Received by (Name): M. Khait
Received by (Signature)
Company: ALS

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 8.5
Samples Received in Good Condition? Yes / No (If no, provide details.)
On cooling media: Y / N

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401218**	Page	: 1 of 13
Amendment	: **1**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 20-Aug-2024 09:15
PO	: YEL218	Date Analysis Commenced	: 22-Aug-2024
C-O-C number	: ----	Issue Date	: 05-Sep-2024 15:43
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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*
Brieanna Allen	Production/Validation Manager	Inorganics, Burnaby, British Columbia
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Leon Yang	Analyst	Inorganics, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	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
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
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.

Workorder Comments

Sample(008) : Water sample for VOC analysis contained > 5% headspace. 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).*

HTDC	*Hold time exceeded for dilution or re-analysis. Reported results are consistent with initial results (tested within hold time), and are valid and defensible.*
SFT	*Sample was filtered due to turbidity interference. Result reflects soluble analyte concentration.*
SRU	*Sample Received Unpreserved. Results may be biased low for indicated parameter(s).*

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Client sample ID					SNP431-G-240819	FB-SNP431-G-240819	SNP431-240819	TRCK-240819	SNP4323-240819
Client sampling date / time					19-Aug-2024 18:48	19-Aug-2024 17:18	19-Aug-2024 18:55	19-Aug-2024 19:18	19-Aug-2024 19:46
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401218-001	YL2401218-002	YL2401218-003	YL2401218-004	YL2401218-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	----	----	44.4	149	55.0
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	----	----	<1.0	7.9	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	----	----	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	----	----	<1.0	3.9	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	----	----	44.4	157	55.0
Conductivity	----	E100/VA	1.0	µS/cm	----	----	3490	880	3420
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	----	----	1520	355	1500
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	----	----	1550	356	1490
pH	----	E108/VA	0.10	pH units	----	----	7.78	8.42	7.85
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	----	----	2800	630	2800
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	----	----	<1.0	2.2	8.5
Turbidity	----	E121/VA	0.10	NTU	----	----	0.46	0.80	7.15
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0186	<0.0050	0.0188	0.0298	0.0119
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	----	----	5.92	0.778	5.78
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	----	----	514	93.0	508
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	----	----	<0.400 DLDS	0.126	<0.400 DLDS
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	----	----	0.542 HTDC	<0.0250 DLDS	<0.100 DLDS
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	----	----	0.542	<0.0255	<0.102
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	----	----	<0.0200 DLDS, HTDC	<0.0050 DLDS	<0.0200 DLDS
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	----	----	----	0.0414	0.0264
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	----	----	1.10 SFT	4.88 SFT	<0.50 SFT
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	----	----	1260	151	1250
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/VA	0.0050	mg/L	----	----	<0.0050	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	----	----	8.16	26.0	9.06

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-G-240819	FB-SNP431-G-240819	SNP431-240819	TRCK-240819	SNP4323-240819
				Client sampling date / time	19-Aug-2024 18:48	19-Aug-2024 17:18	19-Aug-2024 18:55	19-Aug-2024 19:18	19-Aug-2024 19:46
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401218-001	YL2401218-002	YL2401218-003	YL2401218-004	YL2401218-005
					Result	Result	Result	Result	Result
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	----	----	7.01	26.3	7.84
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	----	----	41.7	8.92	41.5
Cation sum	----	EC101/VA	0.10	meq/L	----	----	39.5	9.10	38.9
Ion balance (APHA)	----	EC101/VA	0.01	%	----	----	-2.71	1.00	-3.23
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	----	----	0.0104	0.0198	0.169
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	----	----	0.165	0.00376	0.0801
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	----	----	0.278	0.133	0.137
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	----	----	0.0167	0.0380	0.0876
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	----	----	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	----	----	<0.000100 DLA	<0.000050	<0.000100 DLA
Boron, total	7440-42-8	E420/VA	0.010	mg/L	----	----	0.316	0.032	0.279
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	----	----	0.0000205	<0.0000050	0.0000396
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	----	----	433	71.2	414
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	----	----	0.000365	<0.000010	0.000076
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	----	----	0.00026	0.00011	0.00026
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	----	----	<0.00100 DLA	<0.00050	<0.00100 DLA
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	----	----	0.00429	0.00246	0.00224
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	----	----	0.00862	<0.00050	0.00613
Iron, total	7439-89-6	E420/VA	0.010	mg/L	----	----	0.024	0.067	0.486
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	----	----	<0.000100 DLA	<0.000050	0.00251
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	----	----	0.0368	0.0150	0.0306
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	----	----	115	43.4	110
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	----	----	0.00335	0.0264	0.377
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	----	----	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	----	----	0.0164	0.000481	0.00692
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	----	----	0.00969	0.00074	0.0101
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	----	----	<0.100 DLA	<0.050	<0.100 DLA
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	----	----	13.7	5.89	13.4

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-G-240819	FB-SNP431-G-240819	SNP431-240819	TRCK-240819	SNP4323-240819
				Client sampling date / time	19-Aug-2024 18:48	19-Aug-2024 17:18	19-Aug-2024 18:55	19-Aug-2024 19:18	19-Aug-2024 19:46
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401218-001	YL2401218-002	YL2401218-003	YL2401218-004	YL2401218-005
					Result	Result	Result	Result	Result
Total Metals									
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	----	----	0.0122	0.00337	0.0125
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	----	----	0.000405	<0.000050	0.000230
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	----	----	0.62	2.50	0.53
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	----	----	0.000044	<0.000010	<0.000020 DLA
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	----	----	208	42.4	196
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	----	----	4.06	0.371	3.92
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	----	----	487	59.9	480
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	----	----	<0.00040 DLA	<0.00020	0.00047
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	----	----	0.000025	<0.000010	<0.000020 DLA
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	----	----	<0.00020 DLA	<0.00010	<0.00020 DLA
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	----	----	<0.00020 DLA	<0.00010	<0.00020 DLA
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	----	----	<0.00060 DLA	0.00082	0.00927 DLM
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	----	----	0.00026	<0.00010	<0.00020 DLA
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	----	----	0.00270	0.000798	0.00186
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	----	----	<0.00100 DLA	<0.00050	<0.00100 DLA
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	----	----	<0.0060 DLA	<0.0030	0.0084
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	----	----	<0.00040 DLA	<0.00020	<0.00040 DLA
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	----	----	0.0095	0.0039	0.0052
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	----	----	0.171	0.00380	0.0824
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	----	----	0.266	0.129	0.0779
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	----	----	0.0176	0.0381	0.0916
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	----	----	<0.000100 DLA	<0.000100	<0.000100 DLA
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	----	----	<0.000100 DLA	<0.000050	<0.000100 DLA
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	----	----	0.306	0.030	0.268
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	----	----	0.0000235	<0.0000050	0.0000298
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	----	----	427	71.4	424
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	----	----	0.000381	<0.000010	0.000057
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	----	----	0.00030	<0.00010	<0.00020 DLA
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	----	----	<0.00100 DLA	<0.00050	<0.00100 DLA

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-G-240819	FB-SNP431-G-240819	SNP431-240819	TRCK-240819	SNP4323-240819
				Client sampling date / time	19-Aug-2024 18:48	19-Aug-2024 17:18	19-Aug-2024 18:55	19-Aug-2024 19:18	19-Aug-2024 19:46
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401218-001	YL2401218-002	YL2401218-003	YL2401218-004	YL2401218-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	----	----	0.00400	0.00230	0.00204
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	----	----	0.00786	<0.00020	0.00352
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	----	----	<0.020 DLA	0.033	0.043
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	----	----	<0.000100 DLA	<0.000050	0.000283
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	----	----	0.0335	0.0136	0.0285
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	----	----	110	42.9	108
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	----	----	0.00158	0.0127	0.385
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	----	----	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	----	----	0.0171	0.000490	0.00719
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	----	----	0.00946	0.00067	0.00929
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	----	----	<0.100 DLA	<0.050	<0.100 DLA
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	----	----	14.0	6.18	13.4
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	----	----	0.0119	0.00336	0.0121
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	----	----	0.000366	0.000061	0.000164
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	----	----	0.613	2.57	0.117
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	----	----	0.000027	<0.000010	<0.000020 DLA
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	----	----	202	42.5	196
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	----	----	4.30	0.382	4.08
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	----	----	457	55.0	430
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	----	----	<0.00040 DLA	<0.00020	<0.00040 DLA
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	----	----	0.000030	<0.000010	<0.000020 DLA
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	----	----	<0.00020 DLA	<0.00010	<0.00020 DLA
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	----	----	<0.00020 DLA	<0.00010	<0.00020 DLA
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	----	----	<0.00060 DLA	<0.00030	<0.00060 DLA
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	----	----	0.00026	<0.00010	<0.00020 DLA
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	----	----	0.00238	0.000714	0.00156
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	----	----	<0.00100 DLA	<0.00050	<0.00100 DLA
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	----	----	0.0032	<0.0010	0.0048
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	----	----	<0.00040 DLA	<0.00020	<0.00040 DLA
Dissolved mercury filtration location	----	EP509/VA	-	-	----	----	Field	Field	Field

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-G-240819	FB-SNP431-G-240819	SNP431-240819	TRCK-240819	SNP4323-240819
				Client sampling date / time	19-Aug-2024 18:48	19-Aug-2024 17:18	19-Aug-2024 18:55	19-Aug-2024 19:18	19-Aug-2024 19:46
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401218-001	YL2401218-002	YL2401218-003	YL2401218-004	YL2401218-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Dissolved metals filtration location	----	EP421/VA	-	-	----	----	Field	Field	Field
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Styrene	100-42-5	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Toluene	108-88-3	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	----	----	<0.00040	----	----
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	----	----	<0.00030	----	----
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	----	----	<0.00050	----	----
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	----	----	<0.10	----	----
F2 (C10-C16)	----	E601/VA	0.10	mg/L	----	----	<0.10	----	----
F3 (C16-C34)	----	E601/VA	0.25	mg/L	----	----	<0.25	----	----
F4 (C34-C50)	----	E601/VA	0.25	mg/L	----	----	<0.25	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	----	----	<0.38	----	----
F1-BTEX	----	EC580/VA	0.100	mg/L	----	----	<0.100	----	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	----	85.9	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	----	99.3	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	----	87.1	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	----	97.8	----	----

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	FB-SNP4323-240819	SNP435-240819	TB-240819	----	----
				Client sampling date / time	19-Aug-2024 19:46	19-Aug-2024 20:03	19-Aug-2024 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401218-006	YL2401218-007	YL2401218-008	--------	--------
					Result	Result	Result	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	49.6	<1.0	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	49.6	<1.0	----	----
Conductivity	----	E100/VA	1.0	µS/cm	<1.0	3370	1.3	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	<0.60	1440	<0.60	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	<0.60	1470	<0.60	----	----
pH	----	E108/VA	0.10	pH units	5.26	7.82	5.43	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	<3.0	2770	<3.0	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	<1.0	<1.0	----	----
Turbidity	----	E121/VA	0.10	NTU	<0.10	2.24	<0.10	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	0.0162	<0.0050	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	5.50	<0.050	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	<0.50	488	<0.50	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.020	<0.400 DLDS	<0.020	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0050	<0.100 DLDS	<0.0050	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0051	<0.102	<0.0051	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	<0.0200 DLDS	<0.0010	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	<0.0020	0.0174	<0.0020	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	<0.50 SFT	<0.50 SFT	<0.50	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	<0.30	1200	<0.30	----	----
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/VA	0.0050	mg/L	----	----	<0.0050 SRU	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	<0.50	7.99	<0.50	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	<0.50	7.02	<0.50	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	FB-SNP4323-240819	SNP435-240819	TB-240819	----	----
				Client sampling date / time	19-Aug-2024 19:46	19-Aug-2024 20:03	19-Aug-2024 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401218-006	YL2401218-007	YL2401218-008	--------	--------
					Result	Result	Result	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	<0.10	39.8	<0.10	----	----
Cation sum	----	EC101/VA	0.10	meq/L	<0.10	37.4	<0.10	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	0.0	-3.11	0.0	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	<0.0030	0.0301	<0.0030	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	0.0658	<0.00010	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	<0.00010	0.100	<0.00010	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	<0.00010	0.0816	<0.00010	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000050	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	<0.010	0.272	<0.010	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	0.0000382	<0.0000050	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	<0.050	412	<0.050	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	0.000066	<0.000010	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00050	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	0.00228	<0.00010	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	0.00391	<0.00050	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	<0.010	0.243	<0.010	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	0.000541	<0.000050	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	<0.0010	0.0306	<0.0010	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	<0.0050	108	<0.0050	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	<0.00010	0.110	<0.00010	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	<0.000050	0.00581	<0.000050	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	0.00830	<0.00050	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.100 DLA	<0.050	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	<0.050	12.6	<0.050	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	<0.00020	0.0116	<0.00020	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000050	0.000137	<0.000050	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	FB-SNP4323-240819	SNP435-240819	TB-240819	----	----
				Client sampling date / time	19-Aug-2024 19:46	19-Aug-2024 20:03	19-Aug-2024 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401218-006	YL2401218-007	YL2401218-008	--------	--------
					Result	Result	Result	----	----
Total Metals									
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	<0.10	0.39	<0.10	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000010	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	<0.050	188	<0.050	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	<0.00020	3.59	<0.00020	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	<0.50	468	<0.50	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00020	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000010	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	<0.00150 DLM	<0.00030	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	<0.000010	0.00145	<0.000010	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00050	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	0.0076	<0.0030	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00020	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	<0.0010	0.0039	<0.0010	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	<0.00010	0.0691	<0.00010	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	<0.00010	0.0670	<0.00010	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	<0.00010	0.0835	<0.00010	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100 DLA	<0.000100	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000050	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	<0.010	0.262	<0.010	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	0.0000478	<0.0000050	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	<0.050	397	<0.050	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	0.000069	<0.000010	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00050	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00010	0.00227	<0.00010	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	<0.00020	0.00354	<0.00020	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	FB-SNP4323-240819	SNP435-240819	TB-240819	----	----
				Client sampling date / time	19-Aug-2024 19:46	19-Aug-2024 20:03	19-Aug-2024 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401218-006	YL2401218-007	YL2401218-008	--------	--------
					Result	Result	Result	----	----
Dissolved Metals									
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	<0.010	0.063	<0.010	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	0.000119	<0.000050	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	<0.0010	0.0274	<0.0010	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	<0.0050	108	<0.0050	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	<0.00010	0.114	<0.00010	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	<0.000050	0.00624	<0.000050	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00050	0.00797	<0.00050	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.100 DLA	<0.050	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	<0.050	13.4	<0.050	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	<0.00020	0.0122	<0.00020	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	<0.000050	0.000172	<0.000050	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	<0.050	0.270	<0.050	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000010	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	<0.050	193	<0.050	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	<0.00020	3.99	<0.00020	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	<0.50	433	<0.50	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00020	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000010	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00060 DLA	<0.00030	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	<0.000010	0.00130	<0.000010	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00050	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	0.0065	<0.0010	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00020	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	----	----
Volatile Organic Compounds [Fuels]									

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	FB-SNP4323-240819	SNP435-240819	TB-240819	----	----
				Client sampling date / time	19-Aug-2024 19:46	19-Aug-2024 20:03	19-Aug-2024 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401218-006	YL2401218-007	YL2401218-008	--------	--------
					Result	Result	Result	----	----
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611A/VA	0.00050	mg/L	----	<0.00050	<0.00050	----	----
Ethylbenzene	100-41-4	E611A/VA	0.00050	mg/L	----	<0.00050	<0.00050	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.00050	mg/L	----	<0.00050	<0.00050	----	----
Styrene	100-42-5	E611A/VA	0.00050	mg/L	----	<0.00050	<0.00050	----	----
Toluene	108-88-3	E611A/VA	0.00050	mg/L	----	<0.00050	<0.00050	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.00040	mg/L	----	<0.00040	<0.00040	----	----
Xylene, o-	95-47-6	E611A/VA	0.00030	mg/L	----	<0.00030	<0.00030	----	----
Xylenes, total	1330-20-7	E611A/VA	0.00050	mg/L	----	<0.00050	<0.00050	----	----
Hydrocarbons									
F1 (C6-C10)	----	E581.VH+F1/VA	0.10	mg/L	----	<0.10	<0.10	----	----
F2 (C10-C16)	----	E601/VA	0.10	mg/L	----	<0.10	<0.10	----	----
F3 (C16-C34)	----	E601/VA	0.25	mg/L	----	<0.25	<0.25	----	----
F4 (C34-C50)	----	E601/VA	0.25	mg/L	----	<0.25	<0.25	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/VA	0.38	mg/L	----	<0.38	<0.38	----	----
F1-BTEX	----	EC580/VA	0.100	mg/L	----	<0.100	<0.100	----	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	86.8	89.6	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	105	99.6	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	87.2	86.9	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	98.3	97.9	----	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401218**	Page	: 1 of 27
Amendment	: **1**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 20-Aug-2024 09:15
PO	: YEL218	Issue Date	: 05-Sep-2024 15:44
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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) FB-SNP431-G-240819	E298	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) FB-SNP4323-240819	E298	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP431-G-240819	E298	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4323-240819	E298	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP435-240819	E298	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TB-240819	E298	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TRCK-240819	E298	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-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 : Ammonia by Fluorescence										
Amber glass total (lab preserved)										
SNP431-240819	E298	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	23-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
FB-SNP4323-240819	E235.Br-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
SNP431-240819	E235.Br-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
SNP4323-240819	E235.Br-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
SNP435-240819	E235.Br-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
TB-240819	E235.Br-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
TRCK-240819	E235.Br-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE										
FB-SNP4323-240819	E235.Cl	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE										
SNP431-240819	E235.Cl	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 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
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4323-240819	E235.Cl	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP435-240819	E235.Cl	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TB-240819	E235.Cl	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TRCK-240819	E235.Cl	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE FB-SNP4323-240819	E235.F	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP431-240819	E235.F	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4323-240819	E235.F	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP435-240819	E235.F	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TB-240819	E235.F	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 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
Anions and Nutrients : Fluoride in Water by IC										
HDPE TRCK-240819	E235.F	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE FB-SNP4323-240819	E235.NO3-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP431-240819	E235.NO3-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4323-240819	E235.NO3-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP435-240819	E235.NO3-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE TB-240819	E235.NO3-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE TRCK-240819	E235.NO3-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE FB-SNP4323-240819	E235.NO2-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP431-240819	E235.NO2-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 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
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4323-240819	E235.NO2-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP435-240819	E235.NO2-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE TB-240819	E235.NO2-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE TRCK-240819	E235.NO2-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	22-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE FB-SNP4323-240819	E392	19-Aug-2024	----	----	----		28-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP431-240819	E392	19-Aug-2024	----	----	----		28-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4323-240819	E392	19-Aug-2024	----	----	----		28-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP435-240819	E392	19-Aug-2024	----	----	----		28-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TB-240819	E392	19-Aug-2024	----	----	----		28-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TRCK-240819	E392	19-Aug-2024	----	----	----		28-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE FB-SNP4323-240819	E235.SO4	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP431-240819	E235.SO4	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4323-240819	E235.SO4	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP435-240819	E235.SO4	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TB-240819	E235.SO4	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TRCK-240819	E235.SO4	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) TB-240819	E372-U	19-Aug-2024	03-Sep-2024	28 days	15 days	✓	05-Sep-2024	28 days	16 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) FB-SNP4323-240819	E372-U	19-Aug-2024	22-Aug-2024	28 days	3 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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: 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) SNP4323-240819	E372-U	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP435-240819	E372-U	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	27-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) TRCK-240819	E372-U	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	27-Aug-2024	28 days	7 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide) SNP431-240819	E333	19-Aug-2024	22-Aug-2024	14 days	3 days	✓	22-Aug-2024	14 days	3 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (lab preserved) TB-240819	E333	19-Aug-2024	30-Aug-2024	47 hrs	260 hrs	✗ EHT	30-Aug-2024	47 hrs	260 hrs	✗ EHT
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) FB-SNP4323-240819	E421.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP431-240819	E421.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4323-240819	E421.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP435-240819	E421.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 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
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TB-240819	E421.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TRCK-240819	E421.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) FB-SNP4323-240819	E509	19-Aug-2024	27-Aug-2024	28 days	8 days	✓	27-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial - dissolved (lab preserved) SNP431-240819	E509	19-Aug-2024	27-Aug-2024	28 days	8 days	✓	27-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4323-240819	E509	19-Aug-2024	27-Aug-2024	28 days	8 days	✓	27-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP435-240819	E509	19-Aug-2024	27-Aug-2024	28 days	8 days	✓	27-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial - dissolved (lab preserved) TB-240819	E509	19-Aug-2024	27-Aug-2024	28 days	8 days	✓	27-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) TRCK-240819	E509	19-Aug-2024	27-Aug-2024	28 days	8 days	✓	27-Aug-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) FB-SNP4323-240819	E421	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	27-Aug-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) SNP431-240819	E421	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	27-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4323-240819	E421	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	27-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP435-240819	E421	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	27-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TB-240819	E421	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	27-Aug-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TRCK-240819	E421	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	27-Aug-2024	180 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP431-240819	E601	19-Aug-2024	25-Aug-2024	14 days	6 days	✓	27-Aug-2024	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP435-240819	E601	19-Aug-2024	25-Aug-2024	14 days	6 days	✓	27-Aug-2024	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) TB-240819	E601	19-Aug-2024	25-Aug-2024	14 days	6 days	✓	27-Aug-2024	40 days	2 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP431-240819	E581.VH+F1	19-Aug-2024	24-Aug-2024	14 days	5 days	✓	24-Aug-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 : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP435-240819	E581.VH+F1	19-Aug-2024	24-Aug-2024	14 days	5 days	✓	24-Aug-2024	14 days	5 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) TB-240819	E581.VH+F1	19-Aug-2024	24-Aug-2024	14 days	5 days	✓	24-Aug-2024	14 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) FB-SNP4323-240819	E358-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4323-240819	E358-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP435-240819	E358-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) TB-240819	E358-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) TRCK-240819	E358-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) SNP431-240819	E358-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	23-Aug-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) FB-SNP4323-240819	E355-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-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
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4323-240819	E355-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP435-240819	E355-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) TB-240819	E355-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) TRCK-240819	E355-L	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	23-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (lab preserved) SNP431-240819	E355-L	19-Aug-2024	22-Aug-2024	3 days	3 days	✓	23-Aug-2024	28 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE FB-SNP4323-240819	E290	19-Aug-2024	22-Aug-2024	14 days	3 days	✓	22-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP431-240819	E290	19-Aug-2024	22-Aug-2024	14 days	3 days	✓	22-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4323-240819	E290	19-Aug-2024	22-Aug-2024	14 days	3 days	✓	22-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP435-240819	E290	19-Aug-2024	22-Aug-2024	14 days	3 days	✓	22-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
Physical Tests : Alkalinity Species by Titration										
HDPE TB-240819	E290	19-Aug-2024	22-Aug-2024	14 days	3 days	✓	22-Aug-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TRCK-240819	E290	19-Aug-2024	22-Aug-2024	14 days	3 days	✓	22-Aug-2024	14 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE FB-SNP4323-240819	E100	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP431-240819	E100	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4323-240819	E100	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP435-240819	E100	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE TB-240819	E100	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE TRCK-240819	E100	19-Aug-2024	22-Aug-2024	28 days	3 days	✓	22-Aug-2024	28 days	3 days	✓
Physical Tests : pH by Meter										
HDPE SNP435-240819	E108	19-Aug-2024	22-Aug-2024	0.25 hrs	68 hrs	✗ EHTR-FM	22-Aug-2024	0.25 hrs	71 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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Physical Tests : pH by Meter										
HDPE FB-SNP4323-240819	E108	19-Aug-2024	22-Aug-2024	0.25 hrs	68 hrs	✗ EHTR-FM	22-Aug-2024	0.25 hrs	72 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4323-240819	E108	19-Aug-2024	22-Aug-2024	0.25 hrs	68 hrs	✗ EHTR-FM	22-Aug-2024	0.25 hrs	72 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE TRCK-240819	E108	19-Aug-2024	22-Aug-2024	0.25 hrs	69 hrs	✗ EHTR-FM	22-Aug-2024	0.25 hrs	72 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP431-240819	E108	19-Aug-2024	22-Aug-2024	0.25 hrs	69 hrs	✗ EHTR-FM	22-Aug-2024	0.25 hrs	73 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE TB-240819	E108	19-Aug-2024	22-Aug-2024	0.25 hrs	70 hrs	✗ EHTR-FM	22-Aug-2024	0.25 hrs	73 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE FB-SNP4323-240819	E162-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP431-240819	E162-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4323-240819	E162-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP435-240819	E162-L	19-Aug-2024	----	----	----		26-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 TB-240819	E162-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE TRCK-240819	E162-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] FB-SNP4323-240819	E160-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP431-240819	E160-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4323-240819	E160-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP435-240819	E160-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] TB-240819	E160-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] TRCK-240819	E160-L	19-Aug-2024	----	----	----		26-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE FB-SNP4323-240819	E121	19-Aug-2024	----	----	----		22-Aug-2024	3 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
Physical Tests : Turbidity by Nephelometry										
HDPE SNP431-240819	E121	19-Aug-2024	----	----	----		22-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4323-240819	E121	19-Aug-2024	----	----	----		22-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP435-240819	E121	19-Aug-2024	----	----	----		22-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE TB-240819	E121	19-Aug-2024	----	----	----		22-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE TRCK-240819	E121	19-Aug-2024	----	----	----		22-Aug-2024	3 days	3 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) FB-SNP4323-240819	E420.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP431-240819	E420.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4323-240819	E420.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP435-240819	E420.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 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 Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TB-240819	E420.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TRCK-240819	E420.Cr-L	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) FB-SNP4323-240819	E508	19-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) SNP431-240819	E508	19-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4323-240819	E508	19-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP435-240819	E508	19-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) TB-240819	E508	19-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) TRCK-240819	E508	19-Aug-2024	27-Aug-2024	28 days	7 days	✓	27-Aug-2024	28 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) FB-SNP4323-240819	E420	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 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 Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP431-240819	E420	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4323-240819	E420	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP435-240819	E420	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TB-240819	E420	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TRCK-240819	E420	19-Aug-2024	25-Aug-2024	180 days	6 days	✓	26-Aug-2024	180 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP431-240819	E611A	19-Aug-2024	24-Aug-2024	14 days	5 days	✓	24-Aug-2024	14 days	5 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP435-240819	E611A	19-Aug-2024	24-Aug-2024	14 days	5 days	✓	24-Aug-2024	14 days	5 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) TB-240819	E611A	19-Aug-2024	24-Aug-2024	14 days	5 days	✓	24-Aug-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).

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	1611210	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1611333	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1611204	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1614392	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1611203	1	20	5.0	5.0	✓
Conductivity in Water	E100	1611209	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1612426	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1619058	1	14	7.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1612425	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611331	1	6	16.6	5.0	✓
Fluoride in Water by IC	E235.F	1611202	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1611205	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1611206	1	20	5.0	5.0	✓
pH by Meter	E108	1611208	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1620705	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1611207	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1616458	1	8	12.5	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1612249	1	8	12.5	5.0	✓
Total Cyanide	E333	1610908	2	21	9.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1617559	2	22	9.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1612248	2	19	10.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611332	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1611334	2	12	16.6	5.0	✓
Turbidity by Nephelometry	E121	1611797	2	22	9.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1614391	1	15	6.6	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1611210	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1611333	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1611204	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1614392	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1615108	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1611203	1	20	5.0	5.0	✓
Conductivity in Water	E100	1611209	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1612426	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1619058	1	14	7.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1612425	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							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611331	1	6	16.6	5.0	✓
Fluoride in Water by IC	E235.F	1611202	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1611205	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1611206	1	20	5.0	5.0	✓
pH by Meter	E108	1611208	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1620705	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1611207	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1616458	1	8	12.5	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1612249	1	8	12.5	5.0	✓
Total Cyanide	E333	1610908	2	21	9.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1617559	2	22	9.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1612248	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611332	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1611334	2	12	16.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1616454	2	26	7.6	5.0	✓
Turbidity by Nephelometry	E121	1611797	2	22	9.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1614391	1	15	6.6	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1611210	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1611333	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1611204	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1614392	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1615108	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1611203	1	20	5.0	5.0	✓
Conductivity in Water	E100	1611209	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1612426	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1619058	1	14	7.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1612425	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611331	1	6	16.6	5.0	✓
Fluoride in Water by IC	E235.F	1611202	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1611205	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1611206	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1620705	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1611207	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1616458	1	8	12.5	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1612249	1	8	12.5	5.0	✓
Total Cyanide	E333	1610908	2	21	9.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1617559	2	22	9.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1612248	1	19	5.2	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*
Method Blanks (MB) - Continued							
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611332	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1611334	2	12	16.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1616454	2	26	7.6	5.0	✓
Turbidity by Nephelometry	E121	1611797	2	22	9.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1614391	1	15	6.6	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1611333	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1611204	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1614392	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1611203	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1612426	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1619058	1	14	7.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1612425	1	18	5.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611331	1	6	16.6	5.0	✓
Fluoride in Water by IC	E235.F	1611202	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1611205	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1611206	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1620705	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1611207	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1612249	1	8	12.5	5.0	✓
Total Cyanide	E333	1610908	2	21	9.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1617559	2	22	9.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1612248	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611332	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1611334	1	12	8.3	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1614391	1	15	6.6	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.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
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.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
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.
Fluoride in Water by IC	E235.F 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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
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 Cyanide	E333 ALS Environmental - Vancouver	Water	ISO 14403 (mod)	Total or Strong Acid Dissociable (SAD) Cyanide is determined by Continuous Flow Analyzer (CFA) with in-line UV digestion followed by colourmetric analysis. Method Limitation: High levels of thiocyanate (SCN) may cause positive interference (up to 0.5% of SCN concentration).
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).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and 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 DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
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.
Reactive Silica by Colourimetry	E392 ALS Environmental - Vancouver	Water	APHA 4500-SiO_2 E (mod)	Silicate (molybdate-reactive silica) is determined by the molybdosilicate-heteropoly blue colourimetric method using a discrete analyzer. Method Limitation: Arsenic (5+) above 100 mg/L is a negative interference on this test

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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 Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L 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.
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.
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L ALS Environmental - Vancouver	Water	APHA 3030 B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS
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
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then 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.
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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Vancouver	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
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).
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 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
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401218**	Page	: 1 of 21
Amendment	: **1**		
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 20-Aug-2024 09:15
PO	: YEL218	Date Analysis Commenced	: 22-Aug-2024
C-O-C number	: ----	Issue Date	: 05-Sep-2024 15:44
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
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*
Brieanna Allen	Production/Validation Manager	Vancouver Inorganics, Burnaby, British Columbia
Dan Gebert	Laboratory Analyst	Vancouver Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Vancouver Metals, Burnaby, British Columbia
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Leon Yang	Analyst	Vancouver Inorganics, Burnaby, British Columbia
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Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	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: 1611208)											
VA24C1311-003	Anonymous	pH	----	E108	0.10	pH units	8.46	8.46	0.00%	4%	----
Physical Tests (QC Lot: 1611209)											
VA24C1311-003	Anonymous	Conductivity	----	E100	1.0	µS/cm	347	348	0.288%	10%	----
Physical Tests (QC Lot: 1611210)											
VA24C1311-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	133	133	0.228%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	7.5	7.7	2.67%	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	3.7	3.8	0.1	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	141	140	0.0718%	20%	----
Physical Tests (QC Lot: 1611797)											
VA24C1311-004	Anonymous	Turbidity	----	E121	0.10	NTU	<0.10	<0.10	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1611798)											
YL2401218-008	TB-240819	Turbidity	----	E121	0.10	NTU	<0.10	<0.10	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1616458)											
YL2401217-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	10.0	mg/L	135	135	0.247%	20%	----
Anions and Nutrients (QC Lot: 1611202)											
VA24C1311-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.056	0.054	0.001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1611203)											
VA24C1311-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1611204)											
VA24C1311-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1611205)											
VA24C1311-001	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: 1611206)											
VA24C1311-001	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: 1611207)											
VA24C1311-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	114	115	0.702%	20%	----
Anions and Nutrients (QC Lot: 1611333)											
VA24C1087-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	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: 1611334)											
VA24C1087-001	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: 1620705)											
VA24C1021-009	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	7.58	7.56	0.361%	20%	----
Anions and Nutrients (QC Lot: 1630446)											
KS2403545-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0057	0.0056	0.00008	Diff <2x LOR	----
Cyanides (QC Lot: 1610908)											
VA24C0605-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Cyanides (QC Lot: 1626862)											
VA24C0948-011	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1611331)											
YL2401218-003	SNP431-240819	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	8.16	8.27	1.30%	20%	----
Organic / Inorganic Carbon (QC Lot: 1611332)											
VA24C1087-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Total Metals (QC Lot: 1612248)											
YL2401217-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0518	0.0550	6.17%	20%	----
YL2401217-001	Anonymous	Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00022	0.00022	0.000005	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00218	0.00212	2.57%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0375	0.0375	0.0893%	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	0.018	0.018	0.0003	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000080	0.0000055	0.0000024	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	23.2	23.6	1.42%	20%	----
		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	0.00175	0.00169	0.00006	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.080	0.090	0.010	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	0.0049	0.0049	0.00004	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	7.36	7.26	1.27%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00400	0.00422	5.48%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000627	0.000597	4.99%	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: 1612248) - continued											
YL2401217-001	Anonymous	Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00129	0.00132	0.00004	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	0.764	0.764	0.000872%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00080	0.00090	0.00009	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000188	0.000240	0.000052	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	0.93	0.95	0.02	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	7.63	7.60	0.420%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.126	0.122	2.78%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	10.6	10.7	0.941%	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	0.00030	mg/L	0.00111	0.00148	0.00037	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	0.000404	0.000420	3.78%	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: 1612249)											
YL2401217-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00010	0.00013	0.00003	Diff <2x LOR	----
Total Metals (QC Lot: 1617559)											
VA24C1003-003	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	0.0000360	0.0000447	0.0000087	Diff <2x LOR	----
Total Metals (QC Lot: 1617561)											
YL2401218-007	SNP435-240819	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1612425)											
YL2401217-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0190	0.0182	4.57%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00022	0.00022	0.000001	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00199	0.00198	0.0210%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0378	0.0380	0.497%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.017	0.018	0.0003	Diff <2x LOR	----

Sub-Matrix: **Water**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
					Laboratory Duplicate (DUP) Report						
Dissolved Metals (QC Lot: 1612425) - continued											
YL2401217-001	Anonymous	Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000057	0.0000055	0.0000002	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	23.3	23.6	1.28%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00164	0.00161	0.00002	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.044	0.045	0.001	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0045	0.0045	0.00006	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	7.19	7.22	0.400%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00214	0.00224	4.43%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000666	0.000660	0.846%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00123	0.00119	0.00004	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	0.776	0.770	0.791%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00087	0.00077	0.00010	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000176	0.000180	0.000004	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	0.834	0.861	3.26%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	7.64	8.01	4.61%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.128	0.129	1.15%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	9.70	10.0	3.06%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000373	0.000391	4.64%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1612426)											
YL2401217-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	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*
Dissolved Metals (QC Lot: 1619058)											
VA24C1087-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1614392)											
FJ2402406-001	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	----
		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	<0.50	<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: 1614391)											
FJ2402406-001	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: 1611209)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1611210)						
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: 1611797)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1611798)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1616454)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1616455)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1616458)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1611202)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1611203)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1611204)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1611205)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1611206)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1611207)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1611333)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1611334)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1611334) - continued						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1620705)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1630446)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Cyanides (QCLot: 1610908)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Cyanides (QCLot: 1626862)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1611331)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1611332)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1612248)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1612248) - continued						
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: 1612249)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1617559)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1617561)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1612425)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1612425) - continued						
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1612426)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1619058)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1614392)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1614392) - continued						
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	----
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: 1614391)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1615108)						
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: 1611208)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1611209)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	102	90.0	110	----
Physical Tests (QCLot: 1611210)									
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: 1611797)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.2	85.0	115	----
Physical Tests (QCLot: 1611798)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1616454)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	86.0	85.0	115	----
Physical Tests (QCLot: 1616455)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	85.3	85.0	115	----
Physical Tests (QCLot: 1616458)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1611202)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	99.8	90.0	110	----
Anions and Nutrients (QCLot: 1611203)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1611204)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	98.6	85.0	115	----
Anions and Nutrients (QCLot: 1611205)									
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: 1611206)									
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: 1611207)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1611333)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1611334)									

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: 1611334) - continued									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	95.7	80.0	120	----
Anions and Nutrients (QCLot: 1620705)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1630446)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	91.6	80.0	120	----
Cyanides (QCLot: 1610908)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	96.8	80.0	120	----
Cyanides (QCLot: 1626862)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	97.7	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1611331)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	96.4	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1611332)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	96.0	80.0	120	----
Total Metals (QCLot: 1612248)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	101	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	96.8	80.0	120	----
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	93.2	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	104	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	93.5	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	99.0	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	97.7	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	92.0	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	99.6	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	99.4	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	96.8	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	104	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	99.4	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 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: 1612248) - continued									
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	102	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	98.9	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	101	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	109	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	85.7	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	96.0	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	98.9	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	91.3	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	100	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	93.0	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	96.6	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	105	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	102	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	91.5	80.0	120	----
Total Metals (QCLot: 1612249)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Total Metals (QCLot: 1617559)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	98.4	80.0	120	----
Total Metals (QCLot: 1617561)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	96.9	80.0	120	----
Dissolved Metals (QCLot: 1612425)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	99.8	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	98.1	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	103	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	96.0	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	95.0	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	89.6	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 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
Dissolved Metals (QCLot: 1612425) - continued									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	95.7	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	95.6	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	98.6	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	99.3	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	97.3	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	97.4	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	89.1	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	96.8	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	99.2	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	98.1	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	111	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	98.5	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	103	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	110	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	91.0	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	101	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	98.9	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	112	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	92.8	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	98.2	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	96.4	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	97.0	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	97.7	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	97.2	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	91.6	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	95.9	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	93.8	80.0	120	----
Dissolved Metals (QCLot: 1612426)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	97.3	80.0	120	----
Volatile Organic Compounds (QCLot: 1614392)									

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1614392) - continued									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	103	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	96.8	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	106	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	98.1	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	101	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	101	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	103	70.0	130	----
Hydrocarbons (QCLot: 1614391)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	91.7	70.0	130	----
Hydrocarbons (QCLot: 1615108)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	119	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	115	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	122	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: 1611202)										
VA24C1311-002	Anonymous	Fluoride	16984-48-8	E235.F	1.02 mg/L	1 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1611203)										
VA24C1311-002	Anonymous	Chloride	16887-00-6	E235.Cl	104 mg/L	100 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1611204)										
VA24C1311-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.498 mg/L	0.5 mg/L	99.6	75.0	125	----
Anions and Nutrients (QCLot: 1611205)										
VA24C1311-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.59 mg/L	2.5 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1611206)										
VA24C1311-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.508 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1611207)										
VA24C1311-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1611333)										
VA24C1331-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0972 mg/L	0.1 mg/L	97.2	75.0	125	----
Anions and Nutrients (QCLot: 1611334)										
YL2401218-004	TRCK-240819	Phosphorus, total	7723-14-0	E372-U	0.0620 mg/L	0.05 mg/L	124	70.0	130	----
Anions and Nutrients (QCLot: 1620705)										
VA24C1021-010	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.0 mg/L	10 mg/L	100	75.0	125	----
Cyanides (QCLot: 1610908)										
VA24C0605-002	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.241 mg/L	0.25 mg/L	96.2	75.0	125	----
Cyanides (QCLot: 1626862)										
VA24C0948-012	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.234 mg/L	0.25 mg/L	93.6	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1611331)										
YL2401218-004	TRCK-240819	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1611332)										
YL2401209-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	4.91 mg/L	5 mg/L	98.1	70.0	130	----
Total Metals (QCLot: 1612248)										
YL2401217-002	Anonymous	Aluminum, total	7429-90-5	E420	0.195 mg/L	0.2 mg/L	97.6	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0177 mg/L	0.02 mg/L	88.6	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	0.0400 mg/L	0.04 mg/L	100	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: 1612248) - continued										
YL2401217-002	Anonymous	Bismuth, total	7440-69-9	E420	0.00972 mg/L	0.01 mg/L	97.2	70.0	130	----
		Boron, total	7440-42-8	E420	0.091 mg/L	0.1 mg/L	90.8	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00391 mg/L	0.004 mg/L	97.8	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00911 mg/L	0.01 mg/L	91.1	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0199 mg/L	0.02 mg/L	99.4	70.0	130	----
		Copper, total	7440-50-8	E420	0.0196 mg/L	0.02 mg/L	98.1	70.0	130	----
		Iron, total	7439-89-6	E420	2.04 mg/L	2 mg/L	102	70.0	130	----
		Lead, total	7439-92-1	E420	0.0196 mg/L	0.02 mg/L	98.0	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0968 mg/L	0.1 mg/L	96.8	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	0.0187 mg/L	0.02 mg/L	93.7	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0413 mg/L	0.04 mg/L	103	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.1 mg/L	10 mg/L	101	70.0	130	----
		Potassium, total	7440-09-7	E420	3.84 mg/L	4 mg/L	96.0	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0196 mg/L	0.02 mg/L	98.0	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0414 mg/L	0.04 mg/L	103	70.0	130	----
		Silicon, total	7440-21-3	E420	9.84 mg/L	10 mg/L	98.4	70.0	130	----
		Silver, total	7440-22-4	E420	0.00362 mg/L	0.004 mg/L	90.4	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	20.7 mg/L	20 mg/L	104	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0364 mg/L	0.04 mg/L	91.0	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00392 mg/L	0.004 mg/L	97.9	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0207 mg/L	0.02 mg/L	104	70.0	130	----
		Tin, total	7440-31-5	E420	0.0182 mg/L	0.02 mg/L	91.3	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0390 mg/L	0.04 mg/L	97.6	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0188 mg/L	0.02 mg/L	94.1	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00409 mg/L	0.004 mg/L	102	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.102 mg/L	0.1 mg/L	102	70.0	130	----
		Zinc, total	7440-66-6	E420	0.396 mg/L	0.4 mg/L	99.1	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0375 mg/L	0.04 mg/L	93.9	70.0	130	----
Total Metals (QCLot: 1612249)										
YL2401217-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
Total Metals (QCLot: 1617559)										
VA24C1003-004	Anonymous	Mercury, total	7439-97-6	E508	0.0000907 mg/L	0 mg/L	90.7	70.0	130	----
Total Metals (QCLot: 1617561)										
YL2401218-008	TB-240819	Mercury, total	7439-97-6	E508	0.0000970 mg/L	0 mg/L	97.0	70.0	130	----
Dissolved Metals (QCLot: 1612425)										
YL2401217-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.192 mg/L	0.2 mg/L	96.0	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
Dissolved Metals (QCLot: 1612425) - continued										
YL2401217-002	Anonymous	Antimony, dissolved	7440-36-0	E421	0.0194 mg/L	0.02 mg/L	97.3	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0198 mg/L	0.02 mg/L	99.0	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0384 mg/L	0.04 mg/L	95.9	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00905 mg/L	0.01 mg/L	90.5	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.090 mg/L	0.1 mg/L	89.6	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00396 mg/L	0.004 mg/L	98.9	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0100 mg/L	0.01 mg/L	100	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0389 mg/L	0.04 mg/L	97.3	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.92 mg/L	2 mg/L	95.9	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0190 mg/L	0.02 mg/L	94.9	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0878 mg/L	0.1 mg/L	87.8	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0389 mg/L	0.04 mg/L	97.2	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.67 mg/L	10 mg/L	96.7	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.78 mg/L	4 mg/L	94.6	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0191 mg/L	0.02 mg/L	95.5	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0392 mg/L	0.04 mg/L	98.0	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.48 mg/L	10 mg/L	94.8	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00399 mg/L	0.004 mg/L	99.8	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	18.8 mg/L	20 mg/L	94.0	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0418 mg/L	0.04 mg/L	104	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00369 mg/L	0.004 mg/L	92.2	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0189 mg/L	0.02 mg/L	94.5	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0192 mg/L	0.02 mg/L	96.3	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0382 mg/L	0.04 mg/L	95.6	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0187 mg/L	0.02 mg/L	93.5	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00366 mg/L	0.004 mg/L	91.5	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0984 mg/L	0.1 mg/L	98.4	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.387 mg/L	0.4 mg/L	96.8	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0391 mg/L	0.04 mg/L	97.8	70.0	130	----
Dissolved Metals (QCLot: 1612426)										
YL2401217-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0389 mg/L	0.04 mg/L	97.3	70.0	130	----
Dissolved Metals (QCLot: 1619058)										
VA24C1087-004	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000956 mg/L	0 mg/L	95.6	70.0	130	----
Volatile Organic Compounds (QCLot: 1614392)										

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: 1614392) - continued										
FJ2402406-002	Anonymous	Benzene	71-43-2	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Ethylbenzene	100-41-4	E611A	92.5 µg/L	100 µg/L	92.5	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	104 µg/L	100 µg/L	104	60.0	140	----
		Styrene	100-42-5	E611A	96.6 µg/L	100 µg/L	96.6	60.0	140	----
		Toluene	108-88-3	E611A	98.0 µg/L	100 µg/L	98.0	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	197 µg/L	200 µg/L	98.5	60.0	140	----
		Xylene, o-	95-47-6	E611A	99.5 µg/L	100 µg/L	99.5	60.0	140	----
Hydrocarbons (QCLot: 1614391)										
FJ2402406-003	Anonymous	F1 (C6-C10)	----	E581.VH+F1	4660 µg/L	6310 µg/L	73.8	60.0	140	----

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 689-0957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@reagenc-zimac.gc.ca
mikayla.donovan@wsp.com
old.GiantMine_ALS@wsp.com
Prisa.Panda@rwuso-tpsgc.gc.ca
Reuben.makphoniuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife NT X1A 0G5
Telephone: (867) 689-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facilty Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:		As required - Marked on bottle																			
√ = Field Filtered:		As required - Marked on bottle																			
√ = Standard TAT:		√	√	√	√	√	√	√	√	√											
√ = 1-Day Rush:																					
Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Total Ammonia										
SNP431-G-240819	SNP 43-1	19-Aug-24	17:18	Water			G	1									X										
FB-SNP431-G-240819	SNP 43-1	19-Aug-24	17:18	Water			G	1									X										
SNP431-240813	SNP 43-1	19-Aug-24	18:17	Water			C	13	X	X	X	X		X													
TRCK-240819	TR-CK	19-Aug-24	19:18	Water			G	8	X	X	X		X														
SNP4323-240819	SNP 43-23	19-Aug-24	19:46	Water			G	8	X	X	X		X														
FB-SNP4323-240819	SNP 43-23	19-Aug-24	19:46	Water			G	8	X	X	X		X														
SNP435-240819	SNP 43-5	19-Aug-24	20:03	Water			G	12	X	X	X	X	X														
TB-240819	Trip Blank	19-Aug-24	-	Water			G	13	X	X	X	X		X													

Relinquished by (Sampler Signature):
Keenan Kakfwi

Date/Time: 2024-August-20

Company: SLR Consulting

Received by (Name): Simon Arlooktoo

Received by (Signature)

Company: ALS 9:15 AUG 20/24

Sample Receipt Temperature (deg. C): 3.1

SAMPLE CONDITION (lab use only)

Samples Received in Good Condition? (Yes) / No (If no, provide details)

On cooling media (Y) N

Environmental Division
Yellowknife
Work Order Reference
YL2401218

Telephone : +1 867 873 5593

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CERTIFICATE OF ANALYSIS

Work Order	: **YL2401219**	Page	: 1 of 2
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 20-Aug-2024 09:15
PO	: YEL218	Date Analysis Commenced	: 09-Sep-2024
C-O-C number	: ----	Issue Date	: 11-Sep-2024 11:22
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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*
Oliver Gregg	Client Services Supervisor	External Subcontracting, Saskatoon, Saskatchewan

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*
Bq/L	becquerels 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.

Analytical Results

Sub-Matrix: **Water** (Matrix: **Water**)				*Client sample ID*	**SNP431-240819**	**TB-240819**	**----**	**----**	**----**
				Client sampling date / time	19-Aug-2024 18:55	19-Aug-2024 00:00	----	----	----
Analyte	*CAS Number*	*Method/Lab*	*LOR*	*Unit*	**YL2401219-001**	**YL2401219-002**	**--------**	**--------**	**--------**
					Result	Result	----	----	----
Radiological Parameters									
Radium-226	13982-63-3	Ra-226/2I	0.005	Bq/L	<0.005	<0.005	----	----	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401219**	Page	: 1 of 4
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 20-Aug-2024 09:15
PO	: YEL218	Issue Date	: 11-Sep-2024 11:23
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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 Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

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
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid)										
SNP431-240819	Ra-226	19-Aug-2024	----	----	----		09-Sep-2024	----	20 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE										
TB-240819	Ra-226	19-Aug-2024	----	----	----		09-Sep-2024	----	20 days	

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

- **No Quality Control data available for this section.**

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
Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)	Ra-226 Saskatchewan Research Council - 143 - 111 Research Drive Saskatoon Saskatchewan Canada S7N 3R2	Water		See attached report.

ALS Canada Ltd.

right solutions. right partner.

QUALITY CONTROL REPORT

Work Order	: **YL2401219**	Page	: 1 of 2
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 20-Aug-2024 09:15
PO	: YEL218	Date Analysis Commenced	: 09-Sep-2024
C-O-C number	: ----	Issue Date	: 11-Sep-2024 11:22
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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:

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*
Oliver Gregg	Client Services Supervisor	Saskatchewan Research Council External Subcontracting, Saskatoon, Saskatchewan

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.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

Test Report

SRC Group # 2024-10554

Sep 10, 2024

ALS
314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Date Samples Received: Aug-23-2024 Client P.O.: YL2401219

All results have been reviewed and approved by a Qualified Person in accordance with the Saskatchewan Environmental Code, Corrective Action Plan Chapter, for the purposes of certifying a laboratory analysis

Results from Lab Section 4 approved by Smith-Windsor, Jenna

Test methods and data are validated by the laboratory's Quality Assurance Program.

Routine methods follow recognized procedures from sources such as
- -Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF
- -Environment Canada
- -US EPA
- -CANMET

The results reported relate only to the test samples as provided by the client. Results apply to the sample as received, unless otherwise indicated.

Data marked as "by Client" has been provided by the client and may affect the validity of results.

Samples will be kept for 30 days after the final report is sent. Please contact the lab if you have any special requirements.

Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Analytes denoted with * are accredited by CALA to ISO/IEC 17025:2017.

Additional information is available upon request.

This is a final report.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10554

Sep 10, 2024

ALS

314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Sample #:	**2024029179**	Client PO #:	**YL2401219**
Date Sampled:	**Aug 19, 2024**	Date Received:	**Aug 23, 2024**
Sample Matrix:	**WATER**		
Description:	**08/19/2024 19:55 SNP431-240819 YL2401219-001**		

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 3.8 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10554

Sep 10, 2024

ALS

Sample #: **2024029180**
Date Sampled: **Aug 19, 2024**
Sample Matrix: **WATER**
Description: **08/19/2024 19:55 TB-240819 YL2401219-002**

Client PO #: **YL2401219**
Date Received: **Aug 23, 2024**

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 3.8 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-10554

Sep 10, 2024

ALS

Analyte Methods

Name	Units	Method
Radium-226	Bq/L	Rad-105

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting	
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5	
Phone: (867) 669-8957	
Contact: Ric Horobin	
rhorobin@slrconsulting.com	

Send Samples For Analysis To:

LABORATORY: ALS Group	
Address: 314 Old Airport Rd. Unit 116	
Yellowknife, NT. X1A 3T3	
Phone: (867) 873-6593	
Fax: (867) 920-4238	
Contact: Oliver Gregg	
Email: Oliver.Gregg@alsglobal.com	

eMail Confirmation and Results To:

Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@roxanne-pirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.nanda@wsp-pasc.gc.ca
Reuben.mskohonuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original signed Lab Reports To:

COMPANY: SLR Consulting	
1B Coronation Drive, Yellowknife, NT X1A 0G5	
Telephone: (867) 669-8957	
Fax:	
Contact: Ric Horobin	
Email: rhorobin@slrconsulting.com	

Send Invoice To:

COMPANY: SLR Consulting	
Address:	
Phone:	
Fax:	
Attn: rhorobin@slrconsulting.com	
AccountsPayableCA@slrconsulting.com	

FIELD SAMPLE INFORMATION

Field Notes:

All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.

Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facility Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

= Preserved:		As required - Marked on bottle																			
\ = Field Filtered:		As required - Marked on bottle																			
= Standard TAT:		√	√	√	√	√	√	√	√	√											
\ = 1-Day Rush:																					
Sample ID	**Sample Location**	**Sample Date (dd-mmm-yy)**	**Sample Time (hh:mm)**	**Matrix**	**Laboratory Comments**	**Sampler Comments**	**G = Grab C = Composite**	**Number of Containers**	**GMRP - Routine**	**GMRP - Nutrients**	**GMRP - Metals**	**GMRP - TPH**	**P (colourimetric)**	**Total Cyanide**	**Fecal Coliforms**	**Sulphide**	**Radium-226**				
SNP431-240819	SNP 43-1	19-Aug-24	18:55	Water			C	1									X				
TB-240819	SNP 43-1	19-Aug-24	-	Water			G	1									X				

Relinquished by (Sampler Signature): Keenan Kakfwi

Date/Time: 2024-August-20

Company: SLR Consulting

Received by (Name): Simon Arlooktoo

Received by (Signature)

Company: ALS 9:15 AUG 20/24

SAMPLE CONDITION (lab use only)

Sample Receipt Temperature (deg. C): 3.1

Samples Received in Good Condition? Yes / No (If no, provide details.)

On cooling media? Y / N

Environmental Division
Yellowknife
Work Order Reference
YL2401219

Telephone : +1 867 873 6593

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CERTIFICATE OF ANALYSIS

Work Order	: **YL2401324**	Page	: 1 of 2
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 29-Aug-2024 09:11
PO	: YEL218	Date Analysis Commenced	: 19-Sep-2024
C-O-C number	: ----	Issue Date	: 20-Sep-2024 12:45
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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*
Oliver Gregg	Client Services Supervisor	External Subcontracting, Saskatoon, Saskatchewan

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*
Bq/L	becquerels 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.

Analytical Results

Sub-Matrix: **Water** (Matrix: **Water**)				*Client sample ID*	**SNP431-240828**	**DUP-SNP431-240828**	**----**	**----**	**----**
				Client sampling date / time	28-Aug-2024 19:14	28-Aug-2024 19:14	----	----	----
Analyte	*CAS Number*	*Method/Lab*	*LOR*	*Unit*	**YL2401324-001**	**YL2401324-002**	**--------**	**--------**	**--------**
					Result	Result	----	----	----
Radiological Parameters									
Radium-226	13982-63-3	Ra-226/2I	0.005	Bq/L	<0.005	<0.005	----	----	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401324**	Page	: 1 of 4
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 29-Aug-2024 09:11
PO	: YEL218	Issue Date	: 20-Sep-2024 12:45
C-O-C number	: ----		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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 Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

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	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
Container / Client Sample ID(s)			*Preparation Date*	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid)										
DUP-SNP431-240828	Ra-226	28-Aug-2024	----	----	----		19-Sep-2024	----	22 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid)										
SNP431-240828	Ra-226	28-Aug-2024	----	----	----		19-Sep-2024	----	22 days	

Legend & Qualifier Definitions

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

Quality Control Parameter Frequency Compliance

- **No Quality Control data available for this section.**

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
Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)	Ra-226 Saskatchewan Research Council - 143 - 111 Research Drive Saskatoon Saskatchewan Canada S7N 3R2	Water		See attached report.

ALS Canada Ltd.

right solutions. right partner.

QUALITY CONTROL REPORT

Work Order	: **YL2401324**	Page	: 1 of 2
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife NT Canada X1A 0G5	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 29-Aug-2024 09:11
PO	: YEL218	Date Analysis Commenced	: 19-Sep-2024
C-O-C number	: ----	Issue Date	: 20-Sep-2024 12:45
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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:

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*
Oliver Gregg	Client Services Supervisor	Saskatchewan Research Council External Subcontracting, Saskatoon, Saskatchewan

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.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

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Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

Test Report

SRC Group # 2024-11082

Sep 20, 2024

ALS
314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Date Samples Received: Sep-04-2024 Client P.O.: YL2401324

All results have been reviewed and approved by a Qualified Person in accordance with the Saskatchewan Environmental Code, Corrective Action Plan Chapter, for the purposes of certifying a laboratory analysis

Results from Lab Section 4 approved by Snook, Vicky

Test methods and data are validated by the laboratory's Quality Assurance Program.

Routine methods follow recognized procedures from sources such as
- -Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF
- -Environment Canada
- -US EPA
- -CANMET

The results reported relate only to the test samples as provided by the client. Results apply to the sample as received, unless otherwise indicated.

Data marked as "by Client" has been provided by the client and may affect the validity of results.

Samples will be kept for 30 days after the final report is sent. Please contact the lab if you have any special requirements.

Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Analytes denoted with * are accredited by CALA to ISO/IEC 17025:2017.

Additional information is available upon request.

This is a final report.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-11082

Sep 20, 2024

ALS

314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Sample #:	**2024030515**	Client PO #:	**YL2401324**
Date Sampled:	**Aug 28, 2024**	Date Received:	**Sep 04, 2024**
Sample Matrix:	**WATER**		
Description:	**08/28/2024 20:14 SNP431-240828 YL2401324-001**		

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 5.6 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-11082

Sep 20, 2024

ALS

Sample #:	**2024030516**	Client PO #:	**YL2401324**
Date Sampled:	**Aug 28, 2024**	Date Received:	**Sep 04, 2024**
Sample Matrix:	**WATER**		
Description:	**08/28/2024 20:14 DUP-SNP431-240828 YL2401324-002**		

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	<0.005

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 5.6 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2024-11082

Sep 20, 2024

ALS

Analyte Methods

Name	Units	Method
Radium-226	Bq/L	Rad-105

Lab Copy

GIANT MINE
Chain-of-Custody Record - Analytical Request Form

From:

COMPANY: SLR Consulting
Address: 1B Coronation Drive, Yellowknife, NT, X1A 0G5
Phone: (867) 669-8957
Contact: Ric Horobin
rhorobin@slrconsulting.com

Send Samples For Analysis To:
LABORATORY: ALS Group
Address: 314 Old Airport Rd, Unit 116
Yellowknife, NT, X1A 3T3
Phone: (867) 873-5593
Fax: (867) 920-4238
Contact: Oliver Gregg
Email: Oliver.Gregg@alsglobal.com

eMail Confirmation and Results To:
Please use full distribution list from quote
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@reparo-ermes.ac.ca
mikayla.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

Send Original Signed Lab Reports To:
COMPANY: SLR Consulting
1B Coronation Drive, Yellowknife, NT
X1A 0G5
Telephone: (867) 669-8957
Fax:
Contact: Ric Horobin
Email: rhorobin@slrconsulting.com

Send Invoice To:
COMPANY: SLR Consulting
Address:
Phone:
Fax:
Attn: rhorobin@slrconsulting.com
AccountsPayableCA@slrconsulting.com

FIELD SAMPLE INFORMATION

Field Notes:
All Dissolved samples have been field filtered and preserved. Total metals and dissolved metals has not been field preserved.
Please ensure that there is only one COC per report. Use email confirmation and results list on this COC.

Facility Code:

Project # 208.030049.00001

Quote #

REQUESTED LAB SUITES (see reverse side for details)

√ = Preserved:		As required - Marked on bottle																			
√ = Field Filtered:		As required - Marked on bottle																			
√ = Standard TAT:		√	√	√	√	√	√	√	√	√											
√ = 1-Day Rush:																					
Sample ID	Sample Location	Sample Date (dd-mmm-yy)	Sample Time (hh:mm)	Matrix	Laboratory Comments	Sampler Comments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Radium-226										
SNP431-240828	SNP 43-1	28-Aug-24	19:14	Water			C	1									X										
DUP-SNP431-240828	SNP 43-1	28-Aug-24	19:14	Water			C	1									X										

Relinquished by (Sampler Signature): Keenan Kakfwi
Date/Time: 2024-August-29 9:11
Company: SLR Consulting

Received by (Name): Simon Arlooktoo
Received by (Signature)
Company: ALS AUG 29/24
Sample Receipt Temperature (deg. C): 5.1

SAMPLE CONDITION (lab use only)
Samples Received in Good Condition? Yes Y No (If no, provide details.)
On cooling media Y N

Environmental Division
Yellowknife
Work Order Reference
YL2401324

Telephone : +1 867 873 5593