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 30, 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 September 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 September 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 September 2024 SNP Monthly Report
GMRP MV2007L8-0031 September 2024 SNP Monthly Report – Excel

Canada

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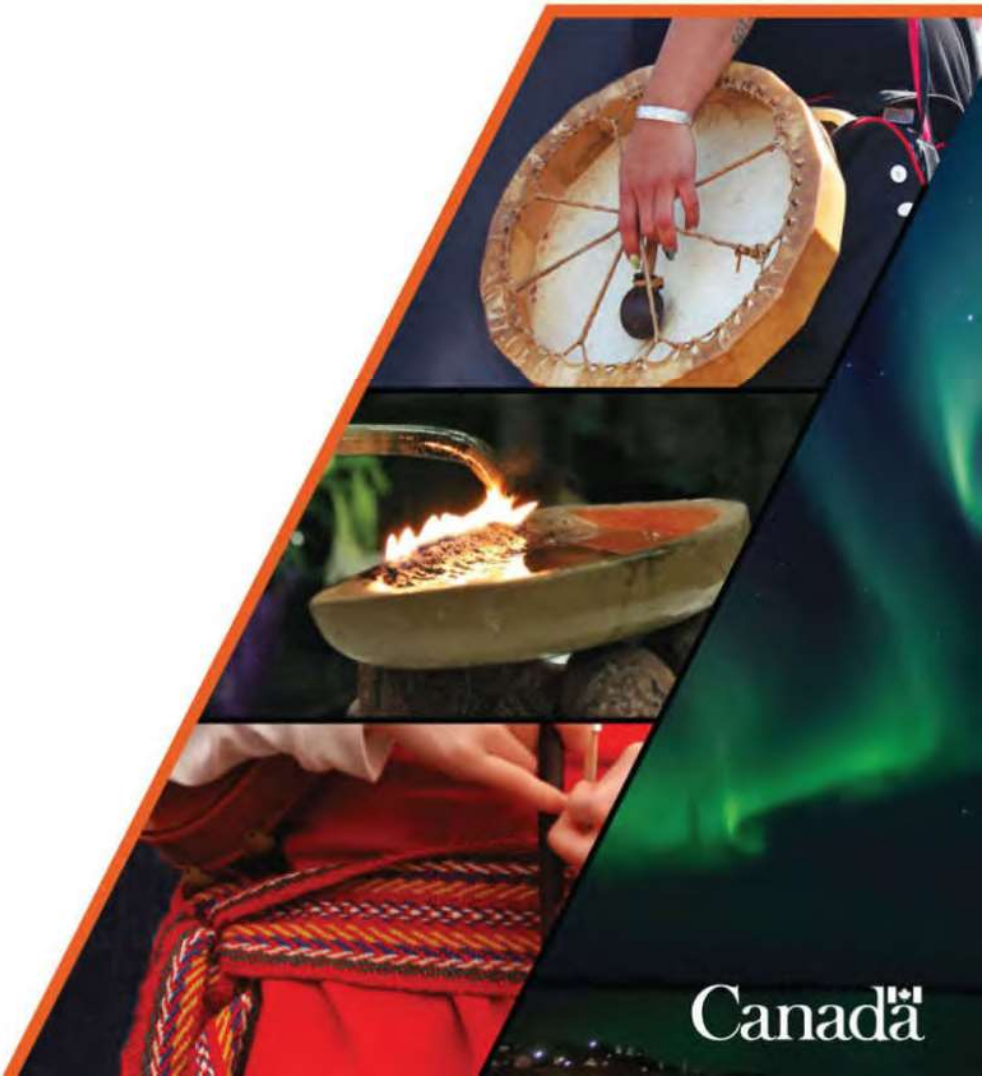
Giant Mine Remediation Project

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

October 30, 2024



Canada

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Appendix A

Laboratory Certificates of Analysis

SNP Summary Report

1.0 Introduction

This report presents a summary of the monitoring activities conducted during September 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 September 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 October 2024 will be submitted on or before November 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 SNP – 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 - September 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	GW Shallow Water Level	Water level measurements for Shallow Groundwater Monitoring Stations
I	GW Shallow Water Results	Water quality results for Shallow Groundwater Monitoring Stations
J	GW Deep Multiport Pressure	Pressure measurements for Deep Multiport Groundwater Monitoring Stations
K	GW Deep Multiport Results	Water quality results for Deep Multiport Groundwater Monitoring Stations
L	QAQC Results - Blanks	Quality assurance and quality control results - blanks
M	QAQC Results - Duplicates	Quality assurance and quality control results - duplicates
N	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 - September 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 - September 2024

Source	Volume (m^3)
Water treated from NWP	74,599
Water treated from NP	0
Water treated from PP	1,000
Total water treated at ETP	75,599
Volume discharged at SNP 43-1	67,736
Pumped water to surface via SNP 43-17	0
Pumped water to surface via SNP 43-21 Pump	0
Pumped water to surface via SNP 43-21A Pump	46,261

Table C2: Summary of Pump-back Volumes - September 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 October 16, 2024.	

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

Table D: SNP Sampling Overview - September 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	September 3, 2024 [i] September 10, 2024 September 18, 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	September 07, 2024	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	September 05, 2024 September 10, 2024 September 21, 2024 September 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	September 03, 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	September 05, 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	September 05, 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		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]		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]	September 05, 2024 [j] September 18, 2024 September 26, 2024 [k]	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	September 05, 2024 September 10, 2024 September 21, 2024 September 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	September 7, 2024 [l]	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		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	September 05, 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	September 05, 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	September 05, 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	September 05, 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	September 7, 2024 [l]	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)	September 9, 2024 [m]	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)	September 14, 2024	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)	September 14, 2024	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)	September 12, 2024	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)	September 12, 2024	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)	September 15, 2024	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)	September 17, 2024 [o]	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW21-01	635990	6935363	SNP	West of the Northwest Pond	Monitors groundwater quality (lateral shallow migration towards Baker Creek).	Twice per year (spring/fall)	September 26, 2024	Grab	GMRP Parameter List; Water Level Measurements (mbgs)
MW21-02	635863	6934285	SNP	South of the Northwest Pond	Monitors and characterizes bedrock groundwater quality (lateral shallow migration south to Trapper Creek and Baker Pond).	Twice per year (spring/fall)	September 23, 2024 - DRY	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)	September 18, 2024	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 as part of RRP).	Once per year (fall)	September 26, 2024	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)	September 17, 2024	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)	September 10, 2024	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)	September 11, 2024	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)	September 21, 2024	Pressure Measurements: Zones 1 - 10 Water Quality: Grab - Zones 4, 8 & 10	GMRP Parameter List; Pressure Measurements (psi)
	Zone 8							September 21, 2024		
	Zone 10							September 21, 2024		
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)	September 30, 2024	Pressure Measurements: Zones 1 - 12 Water Quality: Grab - Zones 2, 4 & 11	GMRP Parameter List; Pressure Measurements (psi)
	Zone 4							September 30, 2024		
	Zone 11							September 30, 2024		
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)	September 26, 2024	Pressure Measurements: Zones 1 - 10 Water Quality: Grab - Zones 2 & 10	GMRP Parameter List; Pressure Measurements (psi)
	Zone 10							September 26, 2024		
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)	September 24, 2024	Pressure Measurements: Zones 1 to 5 Water Quality: Grab - Zones 2 & 5	GMRP Parameter List; Pressure Measurements (psi)
	Zone 5							September 24, 2024		
S-1955	Zone 2	636473	6932122	SNP	Shoreline of Yellowknife Bay	Monitors and characterizes bedrock groundwater quality.	Twice per year (spring/fall)	September 27, 2024	Pressure Measurements: Zones 1 - 7 Water Quality: Grab - Zones 2 & 6	GMRP Parameter List; Pressure Measurements (psi)
	Zone 6							September 27, 2024		
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)	September 25, 2024	Pressure Measurements: Zones 1 to 1 Water Quality: Grab - Zones 4 & 10	GMRP Parameter List; Pressure Measurements (psi)
	Zone 10							September 25, 2024		
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)	September 27, 2024	Pressure Measurement: Zones 1 - 10 Water Quality: Grab - Zones 3 & 9	GMRP Parameter List; Pressure Measurements (psi)
	Zone 9							September 27, 2024		

Notes:

Dark Shading indicates that the location was not sampled during the reporting period	

(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) Monthly: Acute (multi-concentration) toxicity and grab sample
(j) Pump not active. No sample collected.
(k) Incomplete sample collected due to field error. Only GMRP dissolved parameters and fecal coliform analysis completed.
(l) Location dry - no sample collected
(m) Well dry - no purging
(o) Purged dry with partial sample collected at 48 hrs recharge

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 - September 2024

		Sample Location	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**
		Sample Date	**2024-09-03**	**2024-09-10**	**2024-09-10**	**2024-09-18**	**2024-09-18**
		Sample Type	**Spigot**	**Composite**	**Spigot**	**Composite**	**Spigot**
		Unique Sample Identifier	**SNP431-240903**	**SNP431-240910**	**SNP431-G-240910**	**SNP431-240918**	**SNP431-G-240918**
		Laboratory Sample ID	**YL2401381-001 YL2401382-002**	**YL2401444-007 YL2401445-001**	**YL2401444-005**	**YL2401537-004 YL2401535-001**	**YL2401537-002**
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	16.22	7.48	14.79	8.70	13.20
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	7.64	7.86	7.69	8.05	8.13
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	103.49	99.03	106.12	98.50	113.20
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	9.76	11.31	10.23	10.98	11.33
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	3144.3	3289.3	3310.5	3761.0	3700.0

		Sample Location	SNP 43-1	SNP 43-1	SNP 43-1	SNP 43-1	SNP 43-1
		Sample Date	2024-09-03	2024-09-10	2024-09-10	2024-09-18	2024-09-18
		Sample Type	Spigot	Composite	Spigot	Composite	Spigot
		Unique Sample Identifier	SNP431-240903	SNP431-240910	SNP431-G-240910	SNP431-240918	SNP431-G-240918
		Laboratory Sample ID	YL2401381-001 YL2401382-002	YL2401444-007 YL2401445-001	YL2401444-005	YL2401537-004 YL2401535-001	YL2401537-002
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	1.62	0.65	0.48	0.34	-
Data Quality Objectives		**Limit**					
pH	pH Units	1 pH Unit	0.21	0.13	-	0.27	-
Specific Conductivity	µS/cm	20% RPD	9.27%	3.02%	-	10.38%	-
Turbidity [(a)]	NTU	2 NTU	1.34	0.27	-	0.15	-
Conventional (Routine) Parameters							
pH	pH Units	0.10	7.85	7.73	-	7.78	-
Specific Conductivity	µS/cm	1.0	3450	3390	-	3390	-
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	1470	1540	-	1660	-
Total Alkalinity, as $CaCO_3$	mg/L	1.0	45	42.6	-	43.5	-
Total Dissolved Solids	mg/L	3.0	2680	2950	-	2850	-
Total Suspended Solids	mg/L	1.0	< 1.0	1.4	-	< 1.0	-
Turbidity	NTU	0.10	0.28	0.38	-	0.49	-
Major Ions							
Bicarbonate, as $CaCO_3$	mg/L	1.0	45.0	42.6	-	43.5	-
Calcium	mg/L	0.050	414	433	-	467	-
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	-	< 1.0	-
Chloride	mg/L	0.50	509	517	-	507	-
Fluoride	mg/L	0.020	< 0.400 DLDS	< 0.400 DLDS	-	< 0.400 DLDS	-
Magnesium	mg/L	0.0050	105	111	-	119	-
Potassium	mg/L	0.050	13.3	13.3	-	15.4	-
Sodium	mg/L	0.050	198	198	-	222	-
Sulphate	mg/L	0.30	1230	1250	-	1190	-
Reactive silica	mg/L	0.50	0.83	0.75	-	1.31	-
Nutrients							
Nitrate, as N	mg/L	0.0050	0.465	0.454	-	0.422	-
Nitrite, as N	mg/L	0.0010	< 0.0200 DLDS	< 0.0200 DLDS	-	< 0.0200 DLDS	-
Total Ammonia, as N	mg/L	0.0050	0.0177 RRV	0.0172	(b)	0.0373	0.0386
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 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	6.72	7.61	-	7.73	-
Dissolved organic carbon	mg/L	0.50	8.04	8.42	-	7.63	-
Total Metals							
Aluminum	mg/L	0.0030	0.0085	0.0091	-	0.0085	-
Antimony	mg/L	0.00010	0.192	0.182	-	0.230	-
Arsenic	mg/L	0.00010	0.293	0.283	-	0.255	-
Barium	mg/L	0.00010	0.0178	0.0178	-	0.0194	-
Beryllium	mg/L	0.000100	< 0.000100 DLA	< 0.000100 DLA	-	< 0.000100	-
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	-	< 0.000100 DLA	-
Boron	mg/L	0.010	0.373	0.343	-	0.385	-
Cadmium	mg/L	0.0000050	0.0000217	0.0000361	-	0.0000238	-

		Sample Location	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**
		Sample Date	**2024-09-03**	**2024-09-10**	**2024-09-10**	**2024-09-18**	**2024-09-18**
		Sample Type	**Spigot**	**Composite**	**Spigot**	**Composite**	**Spigot**
		Unique Sample Identifier	**SNP431-240903**	**SNP431-240910**	**SNP431-G-240910**	**SNP431-240918**	**SNP431-G-240918**
		Laboratory Sample ID	**YL2401381-001 YL2401382-002**	**YL2401444-007 YL2401445-001**	**YL2401444-005**	**YL2401537-004 YL2401535-001**	**YL2401537-002**
Cesium	mg/L	0.000010	0.000394	0.000346	-	0.000403	-
Chromium (III+VI)	mg/L	0.00010	0.00025	0.00021	-	0.00028	-
Cobalt	mg/L	0.00010	0.00390	0.00356	-	0.00526	-
Copper	mg/L	0.00050	0.00956	0.00925	-	0.00786	-
Iron	mg/L	0.010	< 0.020 DLA	< 0.020 DLA	-	0.042	-
Lead	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	-	< 0.000100 DLA	-
Lithium	mg/L	0.0010	0.0370	0.0369	-	0.0425	-
Manganese	mg/L	0.00010	0.00251	0.00250	-	0.00537	-
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	-
Molybdenum	mg/L	0.000050	0.0181	0.0174	-	0.0182	-
Nickel	mg/L	0.00050	0.0102	0.0103	-	0.00899	-
Rubidium	mg/L	0.00020	0.0128	0.0122	-	0.0123	-
Selenium	mg/L	0.000050	0.000432	0.000494	-	0.000347	-
Silver	mg/L	0.000010	0.000043	0.000043	-	0.000039	-
Strontium	mg/L	0.00020	4.52	4.30	-	4.45	-
Sulphur (as S)	mg/L	0.50	461	466	-	440	-
Thallium	mg/L	0.000010	0.000022	0.000028	-	0.000026	-
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	-	< 0.00020 DLA	-
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00060 DLA	-	< 0.00060 DLA	-
Uranium	mg/L	0.000010	0.00264	0.00263	-	0.00255	-
Vanadium	mg/L	0.00050	< 0.00100 DLA	< 0.00100 DLA	-	< 0.00100 DLA	-
Zinc	mg/L	0.0030	< 0.0060 DLA	< 0.0060 DLA	-	< 0.0060 DLA	-
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	-	< 0.00040 DLA	-
Dissolved Metals							
Aluminum	mg/L	0.0010	0.0072	0.0066	-	0.0075	-
Antimony	mg/L	0.00010	0.180	0.188	-	0.217	-
Arsenic	mg/L	0.00010	0.288	0.276	-	0.230	-
Barium	mg/L	0.00010	0.0181	0.0177	-	0.0189	-
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	-	< 0.000100	-
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	-	< 0.000100 DLA	-
Boron	mg/L	0.010	0.300	0.321	-	0.365	-
Cadmium	mg/L	0.0000050	0.0000263	0.0000276	-	< 0.0000200 DLM	-
Cesium	mg/L	0.000010	0.000368	0.000418	-	0.000369	-
Chromium (III+VI)	mg/L	0.00010	< 0.00020 DLA	0.00024	-	0.00028	-
Cobalt	mg/L	0.00010	0.00347	0.00349	-	0.00477	-
Copper	mg/L	0.00020	0.00864	0.00876	-	0.00661	-
Iron	mg/L	0.010	< 0.020 DLA	< 0.020 DLA	-	< 0.020 DLA	-
Lead	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	-	< 0.000100 DLA	-
Lithium	mg/L	0.0010	0.0339	0.0341	-	0.0399	-
Manganese	mg/L	0.00010	0.00114	0.00135	-	0.00347	-
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	-
Molybdenum	mg/L	0.000050	0.0177	0.0182	-	0.0180	-
Nickel	mg/L	0.00050	0.00962	0.0101	-	0.00844	-
Rubidium	mg/L	0.00020	0.0125	0.0119	-	0.0117	-
Selenium	mg/L	0.000050	0.000407	0.000365	-	0.000252	-
Silver	mg/L	0.000010	0.000027	0.000027	-	< 0.000020 DLA	-
Strontium	mg/L	0.00020	4.28	4.30	-	4.34	-

		Sample Location	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**	**SNP 43-1**
		Sample Date	**2024-09-03**	**2024-09-10**	**2024-09-10**	**2024-09-18**	**2024-09-18**
		Sample Type	**Spigot**	**Composite**	**Spigot**	**Composite**	**Spigot**
		Unique Sample Identifier	**SNP431-240903**	**SNP431-240910**	**SNP431-G-240910**	**SNP431-240918**	**SNP431-G-240918**
		Laboratory Sample ID	**YL2401381-001 YL2401382-002**	**YL2401444-007 YL2401445-001**	**YL2401444-005**	**YL2401537-004 YL2401535-001**	**YL2401537-002**
Sulphur (as S)	mg/L	0.50	452	445	-	411	-
Thallium	mg/L	0.000010	0.000028	0.000021	-	0.000022	-
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	-	< 0.00020 DLA	-
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00060 DLA	-	< 0.00060 DLA	-
Uranium	mg/L	0.000010	0.00265	0.00253	-	0.00241	-
Vanadium	mg/L	0.00050	< 0.00100 DLA	< 0.00100 DLA	-	< 0.00100 DLA	-
Zinc	mg/L	0.0010	0.0022	0.0032	-	0.0026	-
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	-	< 0.00040 DLA	-
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	1.00	< 0.0050	< 0.0050	-	< 0.0050	-
Sulphide	mg/L	0.0015	< 0.0015	-	-	-	-
Radium-226	Bq/L	0.005	0.010	< 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 bottle broke in transit, no analysis was completed.

(c) Only GMRP dissolved parameters and fecal coliform bottles were collected

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 - September 2024

		Sample Location	**SNP 43-5**	**SNP 43-5**	**SNP 43-5**	**SNP 43-5**	**SNP 43-11**	**SNP 43-12**	**SNP 43-16**
		Sample Date	**2024-09-05**	**2024-09-10**	**2024-09-21**	**2024-09-28**	**2024-09-03**	**2024-09-05**	**2024-09-05**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP435-240905**	**SNP435-240910**	**SNP435-240921**	**SNP435-240928**	**SNP4311-240903**	**SNP4312-240905**	**SNP4316-240905**
		Laboratory Sample ID	**YL2401405-002**	**YL2401444-002**	**YL2401570-004**	**YL2401641-004**	**YL2401381-003**	**YL2401405-001**	**YL2401405-005**
Parameter Name	**Unit**	**LOR**							
Field Parameters									
Water Velocity	m/s	<0.01 m/s	<0.01	0.10	0.40	<0.01	<0.01	-	<0.01
Sample Depth	m	0.1 m	0.15	0.15	0.15	0.20	0.15	0.30	0.15
Water Depth	m	0.1 m	0.30	0.30	0.30	0.40	0.30	1.50	0.30
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	14.26	12.54	10.80	7.02	14.97	15.10	12.95
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	6.96	7.05	6.13	7.67	7.79	6.56	7.97
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	97.77	92.47	101.20	96.25	96.95	102.00	82.37
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	9.62	9.40	10.89	11.23	9.50	9.97	8.42
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	3948.7	3234.5	3823.0	3463.9	231.3	127.9	927.5

		Sample Location	SNP 43-5	SNP 43-5	SNP 43-5	SNP 43-5	SNP 43-11	SNP 43-12	SNP 43-16
		Sample Date	2024-09-05	2024-09-10	2024-09-21	2024-09-28	2024-09-03	2024-09-05	2024-09-05
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab
		Unique Sample Identifier	SNP435-240905	SNP435-240910	SNP435-240921	SNP435-240928	SNP4311-240903	SNP4312-240905	SNP4316-240905
		Laboratory Sample ID	YL2401405-002	YL2401444-002	YL2401570-004	YL2401641-004	YL2401381-003	YL2401405-001	YL2401405-005
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	5.31	5.80	4.65	9.45	5.33	2.30	2.14
Data Quality Objectives		**Limit**							
pH	pH Units	1 pH Unit	**1.02**	0.95	**1.70**	0.04	0.21	**1.31**	0.39
Specific Conductivity	µS/cm	20% RPD	12.91%	2.01%	12.30%	6.06%	6.58%	3.93%	9.43%
Turbidity [(a)]	NTU	2 NTU	1.81	1.49	1.84	**4.82**	1.17	0.50	0.59
Conventional (Routine) Parameters									
pH	pH Units	0.10	7.98	8	7.83	7.71	8	7.87	8.36
Specific Conductivity	µS/cm	1.0	3470	3170	3380	3260	247	133	844
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	1500	1400	1520	1530	116	51.9	313
Total Alkalinity, as $CaCO_3$	mg/L	1.0	72.2	75.5	46	56.6	104	45.8	165
Total Dissolved Solids	mg/L	3.0	3090	2820	2480	3060	172	88.2	625
Total Suspended Solids	mg/L	1.0	2.4	2.4	2.9	3.4	9.2	1.4	2.3
Turbidity	NTU	0.10	3.5	4.31	2.81	4.63	6.5	1.8	1.55
Major Ions									
Bicarbonate, as $CaCO_3$	mg/L	1.0	72.2	75.5	46.0	56.6	104	45.8	160
Calcium	mg/L	0.050	431 DLA	390	425	419	31.1	13.9	64.2
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	5.4
Chloride	mg/L	0.50	484	473	507	483	2.78	4.60	91.1
Fluoride	mg/L	0.020	< 0.400 DLDS	< 0.400 DLDS	< 0.400 DLDS	< 0.400 DLDS	0.120	0.080	0.144
Magnesium	mg/L	0.0050	102 DLA	104	112	118	9.22	4.18	37.0
Potassium	mg/L	0.050	12.4 DLA	12.7	14.1	13.2	1.93	1.23	6.34
Sodium	mg/L	0.050	196 DLA	180	203	211	4.33	4.91	46.3
Sulphate	mg/L	0.30	1180	1150	1190	1120	19.2	12.0	120
Reactive silica	mg/L	0.50	0.93	1.15	0.80	0.81	1.59 SFT	1.42 SFT	3.05 SFT
Nutrients									
Nitrate, as N	mg/L	0.0050	< 0.100 DLDS	< 0.100 DLDS	0.162	< 0.100 DLDS	1.09	0.0058	< 0.0250 DLDS
Nitrite, as N	mg/L	0.0010	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0200 DLDS	0.0214	< 0.0010	< 0.0050 DLDS
Total Ammonia, as N	mg/L	0.0050	0.0109	0.0066	0.0116	0.0228	0.0638	0.0059	0.0407
Total Phosphorus (ICPMS), as P	mg/L	0.050	-	-	-	-	-	-	-
Total Phosphorus (Colourimetric), as P	mg/L	0.002	0.0149	0.0192	0.0217	0.0198	0.114	0.0075	0.0699
Organic Carbon									
Total organic carbon	mg/L	0.50	7.24 RRV	7.74	6.84	6.86	13.7	4.82	32.3
Dissolved organic carbon	mg/L	0.50	8.68 RRV	8.78	6.97	8.26	14.9	5.40	30.1
Total Metals									
Aluminum	mg/L	0.0030	0.0870	0.0797	0.0842	0.141	0.0324	0.0778	0.0377
Antimony	mg/L	0.00010	0.0705	0.0716	0.154	0.135	0.00115	0.00028	0.00375
Arsenic	mg/L	0.00010	0.101	0.108	0.227	0.163	0.0639	0.00452	0.146
Barium	mg/L	0.00010	0.104	0.100	0.0425	0.0597	0.0400	0.0204	0.0579
Beryllium	mg/L	0.000100	< 0.000100 DLA	< 0.000100 DLA	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	< 0.000100	< 0.000100 DLA	< 0.000050	< 0.000050	< 0.000050
Boron	mg/L	0.010	0.259	0.280	0.374	0.325	0.010	0.011	0.024
Cadmium	mg/L	0.0000050	0.0000412	0.0000446	0.0000587	0.0000556	< 0.0000050	0.0000056	< 0.0000050

		Sample Location	SNP 43-5	SNP 43-5	SNP 43-5	SNP 43-5	SNP 43-11	SNP 43-12	SNP 43-16
		Sample Date	2024-09-05	2024-09-10	2024-09-21	2024-09-28	2024-09-03	2024-09-05	2024-09-05
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab
		Unique Sample Identifier	SNP435-240905	SNP435-240910	SNP435-240921	SNP435-240928	SNP4311-240903	SNP4312-240905	SNP4316-240905
		Laboratory Sample ID	YL2401405-002	YL2401444-002	YL2401570-004	YL2401641-004	YL2401381-003	YL2401405-001	YL2401405-005
Cesium	mg/L	0.000010	0.000054	0.000047	0.000190	0.000099	0.000017	< 0.000010	< 0.000010
Chromium (III+VI)	mg/L	0.00010	0.00023	< 0.00020 DLA	0.00024	0.00026	< 0.00010	0.00014	0.00021
Cobalt	mg/L	0.00010	0.00202	0.00141	0.00419	0.00404	0.00026	< 0.00010	0.00040
Copper	mg/L	0.00050	0.00379	0.00411	0.00536	0.00506	0.00137	0.00126	< 0.00050
Iron	mg/L	0.010	0.301	0.304	0.220	0.396	0.277	0.062	0.211
Lead	mg/L	0.000050	0.000666	0.00105	0.000537	0.00170	< 0.000050	0.000057	0.000065
Lithium	mg/L	0.0010	0.0306	0.0288	0.0359	0.0317	0.0037	0.0029	0.0166
Manganese	mg/L	0.00010	0.162	0.223	0.0639	0.259	1.07	0.00588	0.0664
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.00529	0.00452	0.0138	0.0100	0.00129	0.000343	0.000406
Nickel	mg/L	0.00050	0.00970	0.0104	0.00954	0.00985	0.00051	0.00067	0.00164
Rubidium	mg/L	0.00020	0.0122	0.0111	0.0120	0.0109	0.00519	0.00183	0.00424
Selenium	mg/L	0.000050	0.000159	0.000137	0.000226	0.000213	0.000068	0.000090	0.000068
Silver	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	0.000024	0.000024	< 0.000010	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	3.84	3.67	4.10	4.33	0.117	0.0726	0.293
Sulphur (as S)	mg/L	0.50	441	428	481	472	7.67	4.07	44.7
Thallium	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	< 0.000020	< 0.000020 DLA	< 0.000010	< 0.000010	< 0.000010
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	< 0.00020	< 0.00020 DLA	< 0.00010	< 0.00010	< 0.00010
Titanium	mg/L	0.00030	< 0.00420 DLM	< 0.00330 DLM	< 0.00420 DLM	< 0.00540 DLM	0.00063	0.00204	0.00153
Uranium	mg/L	0.000010	0.00230	0.00210	0.00225	0.00250	0.000946	0.000291	0.00123
Vanadium	mg/L	0.00050	< 0.00100 DLA	< 0.00100 DLA	< 0.00100	< 0.00100 DLA	< 0.00050	< 0.00050	< 0.00050
Zinc	mg/L	0.0030	0.0141	0.0119	0.0115	0.0147	< 0.0030	< 0.0030	< 0.0030
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	< 0.00040	< 0.00040 DLA	< 0.00020	< 0.00020	< 0.00020
Dissolved Metals									
Aluminum	mg/L	0.0010	0.0025 DLA	0.0020	0.0032	0.0038	0.0069	0.0148	0.0063
Antimony	mg/L	0.00010	0.0712 DLA	0.0699	0.160	0.140	0.00106	0.00026	0.00370
Arsenic	mg/L	0.00010	0.0589 DLA	0.0636	0.178	0.0805	0.0559	0.00397	0.135
Barium	mg/L	0.00010	0.0996 DLA	0.0976	0.0411	0.0649	0.0324	0.0193	0.0570
Beryllium	mg/L	0.000100	< 0.000100 DLA	< 0.000100	< 0.000100 DLA	< 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	< 0.000050	< 0.000050	< 0.000050
Boron	mg/L	0.010	0.326 DLA	0.259	0.303	0.271	< 0.010	< 0.010	0.024
Cadmium	mg/L	0.0000050	0.0000368 DLA	0.0000386	0.0000503	0.0000406	< 0.0000050	< 0.0000050	< 0.0000050
Cesium	mg/L	0.000010	0.000037 DLA	0.000046	0.000175	0.000078	0.000014	< 0.000010	< 0.000010
Chromium (III+VI)	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00010	< 0.00010	0.00014
Cobalt	mg/L	0.00010	0.00180 DLA	0.00133	0.00376	0.00384	0.00022	< 0.00010	0.00037
Copper	mg/L	0.00020	0.00276 DLA	0.00324	0.00407	0.00289	0.00113	0.00111	< 0.00020
Iron	mg/L	0.010	0.058 DLA	0.043	0.039	0.047	0.148	< 0.010	0.117
Lead	mg/L	0.000050	< 0.000100 DLA	0.000131	0.000113	0.000195	< 0.000050	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	0.0300 DLA	0.0261	0.0321	0.0303	0.0036	0.0027	0.0156
Manganese	mg/L	0.00010	0.147 DLA	0.224	0.0602	0.257	0.778	0.00136	0.0598
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.00527 DLA	0.00446	0.0133	0.0101	0.00122	0.000365	0.000429
Nickel	mg/L	0.00050	0.00889 DLA	0.0102	0.00867	0.00944	< 0.00050	0.00055	0.00149
Rubidium	mg/L	0.00020	0.0110 DLA	0.0105	0.0117	0.0109	0.00495	0.00176	0.00386
Selenium	mg/L	0.000050	0.000124 DLA	0.000154	0.000268	0.000155	0.000067	0.000082	0.000110
Silver	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000010	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	3.92 DLA	3.47	4.34	4.34	0.111	0.0727	0.290

		Sample Location	**SNP 43-5**	**SNP 43-5**	**SNP 43-5**	**SNP 43-5**	**SNP 43-11**	**SNP 43-12**	**SNP 43-16**
		Sample Date	**2024-09-05**	**2024-09-10**	**2024-09-21**	**2024-09-28**	**2024-09-03**	**2024-09-05**	**2024-09-05**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP435-240905**	**SNP435-240910**	**SNP435-240921**	**SNP435-240928**	**SNP4311-240903**	**SNP4312-240905**	**SNP4316-240905**
		Laboratory Sample ID	**YL2401405-002**	**YL2401444-002**	**YL2401570-004**	**YL2401641-004**	**YL2401381-003**	**YL2401405-001**	**YL2401405-005**
Sulphur (as S)	mg/L	0.50	440 DLA	413	438	431	6.56	3.84	42.7
Thallium	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000010	< 0.000010	< 0.000010
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00010	< 0.00010	< 0.00010
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00060 DLA	< 0.00060 DLA	< 0.00060 DLA	< 0.00030	0.00041	< 0.00060 DLM
Uranium	mg/L	0.000010	0.00211 DLA	0.00198	0.00231	0.00235	0.000896	0.000258	0.00116
Vanadium	mg/L	0.00050	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00050	< 0.00050	< 0.00050
Zinc	mg/L	0.0010	0.0113 DLA	0.0106	0.0101	0.0112	< 0.0010	< 0.0010	0.0012
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00020	< 0.00020	< 0.00020
Total Petroleum Hydrocarbons									
Benzene	mg/L	0.00050	< 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	< 0.00050	-
Ethylbenzene	mg/L	0.00050	< 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	< 0.00040	-
Xylene (o)	mg/L	0.00030	< 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	< 0.00050	-
PHC F1 (C6-C10)	mg/L	0.10	< 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	< 0.100	-
PHC F2 (C10-C16)	mg/L	0.10	< 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	< 0.25	-
PHC F4 (C34-C50)	mg/L	0.25	< 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	< 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 bottle broke in transit, no analysis was completed.

(c) Only GMRP dissolved parameters and fecal coliform bottles were collected

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 - September 2024

		Sample Location	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-23**	**SNP 43-23**	**SNP 43-23**
		Sample Date	**2024-09-05**	**2024-09-18**	**2024-09-26**	**2024-09-05**	**2024-09-10**	**2024-09-21**
		Sample Type	**Composite**	**Composite**	**Composite**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4321A-240905**	**SNP4321A-240918**	**SNP4321A-240926 [c]**	**SNP4323-240905**	**SNP4323-240910**	**SNP4323-240921**
		Laboratory Sample ID	**YL2401405-011**	**YL2401537-005**	**YL2401628-004**	**YL2401405-003**	**YL2401444-004**	**YL2401570-005**
Parameter Name	**Unit**	**LOR**						
Field Parameters								
Water Velocity	m/s	<0.01 m/s	-	-	-	<0.01	<0.01	<0.01
Sample Depth	m	0.1 m	-	-	-	0.20	0.20	0.30
Water Depth	m	0.1 m	-	-	-	0.40	0.40	0.50
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	9.58	10.60	-	12.89	14.38	9.90
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	7.84	7.61	-	7.24	7.07	6.65
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	98.77	89.40	-	102.27	93.38	86.60
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	10.78	9.53	-	10.36	9.08	9.42
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	3370.3	3097.0	-	3940.3	3223.9	4219.0

		Sample Location	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-23**	**SNP 43-23**	**SNP 43-23**
		Sample Date	**2024-09-05**	**2024-09-18**	**2024-09-26**	**2024-09-05**	**2024-09-10**	**2024-09-21**
		Sample Type	**Composite**	**Composite**	**Composite**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4321A-240905**	**SNP4321A-240918**	**SNP4321A-240926 [c]**	**SNP4323-240905**	**SNP4323-240910**	**SNP4323-240921**
		Laboratory Sample ID	**YL2401405-011**	**YL2401537-005**	**YL2401628-004**	**YL2401405-003**	**YL2401444-004**	**YL2401570-005**
Turbidity [a]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	1.59	1.18	-	12.62	5.14	4.86
Data Quality Objectives		**Limit**						
pH	pH Units	1 pH Unit	0.44	0.48	-	0.71	0.88	**1.18**
Specific Conductivity	µS/cm	20% RPD	7.39%	7.65%	-	12.69%	1.69%	**22.37%**
Turbidity [a]	NTU	2 NTU	-	-	-	**5.64**	1.47	**2.38**
Conventional (Routine) Parameters								
pH	pH Units	0.10	8.28	8.09	-	7.95	7.95	7.83
Specific Conductivity	µS/cm	1.0	3130	2860	-	3470	3170	3370
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	1280	1410	1290	1470	1410	1510
Total Alkalinity, as $CaCO_3$	mg/L	1.0	188	176	-	72.1	70.5	46.2
Total Dissolved Solids	mg/L	3.0	2760	2170	-	3280	2900	2600
Total Suspended Solids	mg/L	1.0	1.2	< 1.0	-	3.7	3.1	1.6
Turbidity	NTU	0.10	1.04	0.58	-	6.98	3.67	2.48
Major Ions								
Bicarbonate, as $CaCO_3$	mg/L	1.0	188	176	-	72.1	70.5	46.2
Calcium	mg/L	0.050	357 DLA	382	354	420 DLA	397	423
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0
Chloride	mg/L	0.50	474	448	-	485	472	509
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	95.8 DLA	111	97.9	102 DLA	102	111
Potassium	mg/L	0.050	11.2 DLA	11.4	12.0	12.7 DLA	12.4	14.4
Sodium	mg/L	0.050	184 DLA	198	180	195 DLA	184	201
Sulphate	mg/L	0.30	839	805	-	1180	1150	1190
Reactive silica	mg/L	0.50	11.9	11.6	-	1.10	1.82	0.75
Nutrients								
Nitrate, as N	mg/L	0.0050	0.477	0.484	-	< 0.100 DLDS	< 0.100 DLDS	0.163
Nitrite, as N	mg/L	0.0010	0.0388	0.0253	-	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0200 DLDS
Total Ammonia, as N	mg/L	0.0050	0.848	0.760	-	0.0090	0.0077	0.0135
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 0.500 DLA	< 1.00 DLA	-	-	-	-
Total Phosphorus (Colourimetric), as P	mg/L	0.002	-	-	-	0.0265	0.0246	0.0168
Organic Carbon								
Total organic carbon	mg/L	0.50	7.55	7.09	-	8.26	7.93	6.78
Dissolved organic carbon	mg/L	0.50	7.50	7.58	7.40	9.67	8.42	7.29
Total Metals								
Aluminum	mg/L	0.0030	< 0.0300 DLA	< 0.0600 DLA	-	0.235	0.0657	0.0745
Antimony	mg/L	0.00010	0.646	0.718	-	0.0806	0.0669	0.153
Arsenic	mg/L	0.00010	23.6	26.8	-	0.146	0.142	0.228
Barium	mg/L	0.00010	0.0511	0.0524	-	0.106	0.0864	0.0399
Beryllium	mg/L	0.000100	< 0.000200 DLA	< 0.000400 DLA	-	< 0.000100 DLA	< 0.000100 DLA	< 0.000100
Bismuth	mg/L	0.000050	< 0.000500 DLA	< 0.00100 DLA	-	< 0.000100 DLA	< 0.000100 DLA	< 0.000100
Boron	mg/L	0.010	0.322	0.348	-	0.258	0.285	0.360
Cadmium	mg/L	0.0000050	0.000268	0.000277	-	0.0000456	0.0000527	0.0000520

		Sample Location	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-23**	**SNP 43-23**	**SNP 43-23**
		Sample Date	**2024-09-05**	**2024-09-18**	**2024-09-26**	**2024-09-05**	**2024-09-10**	**2024-09-21**
		Sample Type	**Composite**	**Composite**	**Composite**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4321A-240905**	**SNP4321A-240918**	**SNP4321A-240926 [c]**	**SNP4323-240905**	**SNP4323-240910**	**SNP4323-240921**
		Laboratory Sample ID	**YL2401405-011**	**YL2401537-005**	**YL2401628-004**	**YL2401405-003**	**YL2401444-004**	**YL2401570-005**
Cesium	mg/L	0.000010	0.000730	0.000638	-	0.000065	0.000045	0.000193
Chromium (III+VI)	mg/L	0.00010	< 0.00100 DLA	0.00418	-	0.00036	< 0.00020 DLA	0.00027
Cobalt	mg/L	0.00010	0.0387	0.0373	-	0.00202	0.00188	0.00425
Copper	mg/L	0.00050	< 0.00500 DLA	< 0.0100 DLA	-	0.00565	0.00402	0.00523
Iron	mg/L	0.010	0.269	0.232	-	0.538	0.316	0.199
Lead	mg/L	0.000050	0.00366	0.00326	-	0.00221	0.000718	0.000448
Lithium	mg/L	0.0010	0.0322	0.0334	-	0.0318	0.0287	0.0352
Manganese	mg/L	0.00010	0.533	0.511	-	0.282	0.279	0.0642
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.0180	0.0179	-	0.00552	0.00488	0.0137
Nickel	mg/L	0.00050	0.0440	0.0431	-	0.0115	0.0105	0.00949
Rubidium	mg/L	0.00020	0.0109	0.00982	-	0.0130	0.0112	0.0117
Selenium	mg/L	0.000050	< 0.000500 DLA	< 0.00100 DLA	-	0.000151	0.000151	0.000258
Silver	mg/L	0.000010	< 0.000100 DLA	< 0.000200 DLA	-	0.000028	< 0.000020 DLA	0.000026
Strontium	mg/L	0.00020	4.55	4.42	-	3.95	3.76	4.07
Sulphur (as S)	mg/L	0.50	292	280	-	451	423	471
Thallium	mg/L	0.000010	< 0.000100 DLA	< 0.000200 DLA	-	< 0.000020 DLA	< 0.000020 DLA	< 0.000020
Tin	mg/L	0.00010	< 0.00100 DLA	< 0.00200 DLA	-	< 0.00020 DLA	< 0.00020 DLA	< 0.00020
Titanium	mg/L	0.00030	< 0.00300 DLA	< 0.00600 DLA	-	< 0.00930 DLM	< 0.00240 DLM	< 0.00330 DLM
Uranium	mg/L	0.000010	0.00609	0.00502	-	0.00215	0.00175	0.00226
Vanadium	mg/L	0.00050	< 0.00500 DLA	< 0.0100 DLA	-	< 0.00100 DLA	< 0.00100 DLA	< 0.00100
Zinc	mg/L	0.0030	0.0554	< 0.0600 DLA	-	0.0127	0.0114	0.0116
Zirconium	mg/L	0.00020	< 0.00200 DLA	< 0.00400 DLA	-	< 0.00040 DLA	< 0.00040 DLA	< 0.00040
Dissolved Metals								
Aluminum	mg/L	0.0010	< 0.0200 DLA	< 0.0200 DLA	< 0.0200 DLA	0.0038 DLA	0.0030	0.0039
Antimony	mg/L	0.00010	0.633 DLA	0.725	0.626	0.0792 DLA	0.0672	0.166
Arsenic	mg/L	0.00010	21.9 DLA	25.7	23.9	0.0697 DLA	0.0830	0.188
Barium	mg/L	0.00010	0.0496 DLA	0.0534	0.0510	0.0977 DLA	0.0884	0.0389
Beryllium	mg/L	0.000100	< 0.000400 DLA	< 0.000400 DLA	< 0.000400 DLA	< 0.000100 DLA	< 0.000100	< 0.000100 DLA
Bismuth	mg/L	0.000050	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.000100 DLA	< 0.000100 DLA	< 0.000100 DLA
Boron	mg/L	0.010	0.379 DLA	0.333	0.350	0.330 DLA	0.260	0.300
Cadmium	mg/L	0.0000050	0.000172 DLA	0.000249	0.000190	0.0000379 DLA	0.0000465	0.0000508
Cesium	mg/L	0.000010	0.000669 DLA	0.000606	0.000659	0.000030 DLA	0.000044	0.000187
Chromium (III+VI)	mg/L	0.00010	< 0.00200 DLA	< 0.00200 DLA	< 0.00200 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA
Cobalt	mg/L	0.00010	0.0365 DLA	0.0356	0.0366	0.00168 DLA	0.00182	0.00393
Copper	mg/L	0.00020	< 0.00400 DLA	< 0.00400 DLA	0.00450	0.00253 DLA	0.00301	0.00414
Iron	mg/L	0.010	< 0.200 DLA	< 0.200 DLA	< 0.200 DLA	0.042 DLA	0.053	0.041
Lead	mg/L	0.000050	0.00302 DLA	0.00290	0.00331	0.000196 DLA	0.000114	0.000102
Lithium	mg/L	0.0010	0.0324 DLA	0.0316	0.0324	0.0293 DLA	0.0259	0.0315
Manganese	mg/L	0.00010	0.489 DLA	0.511	0.507	0.249 DLA	0.284	0.0616
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.0181 DLA	0.0167	0.0167	0.00549 DLA	0.00478	0.0137
Nickel	mg/L	0.00050	0.0420 DLA	0.0411	0.0441	0.0101 DLA	0.0102	0.00874
Rubidium	mg/L	0.00020	0.00978 DLA	0.0104	0.00946	0.0105 DLA	0.0104	0.0118
Selenium	mg/L	0.000050	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA	0.000108 DLA	0.000112	0.000232
Silver	mg/L	0.000010	< 0.000200 DLA	< 0.000200 DLA	< 0.000200 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA
Strontium	mg/L	0.00020	4.63 DLA	4.34	4.36	3.91 DLA	3.55	4.50

		Sample Location	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-21A**	**SNP 43-23**	**SNP 43-23**	**SNP 43-23**
		Sample Date	**2024-09-05**	**2024-09-18**	**2024-09-26**	**2024-09-05**	**2024-09-10**	**2024-09-21**
		Sample Type	**Composite**	**Composite**	**Composite**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4321A-240905**	**SNP4321A-240918**	**SNP4321A-240926 (c)**	**SNP4323-240905**	**SNP4323-240910**	**SNP4323-240921**
		Laboratory Sample ID	**YL2401405-011**	**YL2401537-005**	**YL2401628-004**	**YL2401405-003**	**YL2401444-004**	**YL2401570-005**
Sulphur (as S)	mg/L	0.50	278 DLA	266	284	435 DLA	410	433
Thallium	mg/L	0.000010	< 0.000200 DLA	< 0.000200 DLA	< 0.000200 DLA	< 0.000020 DLA	< 0.000020 DLA	< 0.000020 DLA
Tin	mg/L	0.00010	< 0.00200 DLA	< 0.00200 DLA	< 0.00200 DLA	< 0.00020 DLA	< 0.00020 DLA	< 0.00020 DLA
Titanium	mg/L	0.00030	< 0.00600 DLA	< 0.00600 DLA	< 0.00600 DLA	< 0.00060 DLA	< 0.00060 DLA	< 0.00060 DLA
Uranium	mg/L	0.000010	0.00567 DLA	0.00495	0.00566	0.00196 DLA	0.00175	0.00238
Vanadium	mg/L	0.00050	< 0.0100 DLA	< 0.0100 DLA	< 0.0100 DLA	< 0.00100 DLA	< 0.00100 DLA	< 0.00100 DLA
Zinc	mg/L	0.0010	0.0471 DLA	0.0480	0.0528	0.0077 DLA	0.0098	0.0099
Zirconium	mg/L	0.00020	< 0.00400 DLA	< 0.00400 DLA	< 0.00400 DLA	< 0.00040 DLA	< 0.00040 DLA	< 0.00040 DLA
Total Petroleum Hydrocarbons								
Benzene	mg/L	0.00050	< 0.00050	< 0.00050	-	-	-	-
Toluene	mg/L	0.00050	< 0.00050	< 0.00050	-	-	-	-
Ethylbenzene	mg/L	0.00050	< 0.00050	< 0.00050	-	-	-	-
Xylene (m & p)	mg/L	0.00040	< 0.00040	< 0.00040	-	-	-	-
Xylene (o)	mg/L	0.00030	< 0.00030	< 0.00030	-	-	-	-
Xylenes Total	mg/L	0.00050	< 0.00050	< 0.00050	-	-	-	-
PHC F1 (C6-C10)	mg/L	0.10	< 0.10	< 0.10	-	-	-	-
PHC F1 (C6-C10) - BTEX	mg/L	0.10	< 0.100	< 0.100	-	-	-	-
PHC F2 (C10-C16)	mg/L	0.10	< 0.10	< 0.10	-	-	-	-
PHC F3 (C16-C34)	mg/L	0.25	< 0.25	< 0.25	-	-	-	-
PHC F4 (C34-C50)	mg/L	0.25	< 0.25	< 0.25	-	-	-	-
Total Petroleum Hydrocarbons (C6-C50)	mg/L	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	< 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 bottle broke in transit, no analysis was completed.

(c) Only GMRP dissolved parameters and fecal coliform bottles were collected

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 - September 2024

		Sample Location	**SNP 43-23**	**SNP 43-29**	**SNP 43-30**	**SNP 43-31**	**SNP 43-32**
		Sample Date	**2024-09-28**	**2024-09-05**	**2024-09-05**	**2024-09-05**	**2024-09-05**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4323-240928**	**SNP4329-240905**	**SNP4330-240905**	**SNP4331-240905**	**SNP4332-240905**
		Laboratory Sample ID	**YL2401641-002**	**YL2401405-004**	**YL2401405-010**	**YL2401405-008**	**YL2401405-006**
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	0.30	0.20	0.30
Water Depth	m	0.1 m	0.50	0.80	0.70	0.40	0.50
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	7.52	13.66	13.18	14.25	13.51
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	7.64	7.86	8.36	8.33	7.95
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	96.14	105.52	115.05	120.65	103.43
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	11.08	10.54	11.60	11.92	10.33
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	3470.7	2674.4	1961.6	1985.9	3762.0

		Sample Location	**SNP 43-23**	**SNP 43-29**	**SNP 43-30**	**SNP 43-31**	**SNP 43-32**
		Sample Date	**2024-09-28**	**2024-09-05**	**2024-09-05**	**2024-09-05**	**2024-09-05**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4323-240928**	**SNP4329-240905**	**SNP4330-240905**	**SNP4331-240905**	**SNP4332-240905**
		Laboratory Sample ID	**YL2401641-002**	**YL2401405-004**	**YL2401405-010**	**YL2401405-008**	**YL2401405-006**
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	17.39	0.32	0.30	0.82	1.30
Data Quality Objectives		**Limit**					
pH	pH Units	1 pH Unit	0.03	0.48	0.04	0.21	0.16
Specific Conductivity	µS/cm	20% RPD	3.84%	12.07%	11.40%	10.93%	10.29%
Turbidity [(a)]	NTU	2 NTU	**8.11**	-	-	-	-
Conventional (Routine) Parameters							
pH	pH Units	0.10	7.67	8.34	8.32	8.12	8.11
Specific Conductivity	µS/cm	1.0	3340	2370	1750	1780	4170
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	1520	1230	769	1000	1910
Total Alkalinity, as $CaCO_3$	mg/L	1.0	55.3	175	134	86	96.4
Total Dissolved Solids	mg/L	3.0	3070	2210	1470	1700	3940
Total Suspended Solids	mg/L	1.0	9	< 1.0	< 1.0	1.2	5.5
Turbidity	NTU	0.10	9.28	0.4	0.4	0.93	1.36
Major Ions							
Bicarbonate, as $CaCO_3$	mg/L	1.0	55.3	166	128	86.0	96.4
Calcium	mg/L	0.050	422	281 DLA	177	278 DLA	539 DLA
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	8.7	5.0	< 1.0	< 1.0
Chloride	mg/L	0.50	486	108	121	5.82	535
Fluoride	mg/L	0.020	< 0.400 DLDS	< 0.400 DLDS	< 0.200 DLDS	< 0.200 DLDS	< 0.400 DLDS
Magnesium	mg/L	0.0050	113	128 DLA	79.4	75.7 DLA	137 DLA
Potassium	mg/L	0.050	13.2	9.69 DLA	10.4	6.11 DLA	19.7 DLA
Sodium	mg/L	0.050	203	82.6 DLA	71.0	12.5 DLA	208 DLA
Sulphate	mg/L	0.30	1120	1090	655	986	1610
Reactive silica	mg/L	0.50	0.85	7.94	15.8 SFT	6.20	5.73
Nutrients							
Nitrate, as N	mg/L	0.0050	< 0.100 DLDS	0.592	< 0.0500 DLDS	< 0.0500 DLDS	< 0.100 DLDS
Nitrite, as N	mg/L	0.0010	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0100 DLDS	< 0.0100 DLDS	< 0.0200 DLDS
Total Ammonia, as N	mg/L	0.0050	0.0347	0.0138	0.0180	0.0186	0.0145
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	0.0350	-	-	-	-
Organic Carbon							
Total organic carbon	mg/L	0.50	6.95 RRV	6.24	13.5	12.2	12.4
Dissolved organic carbon	mg/L	0.50	8.86 RRV	6.49	14.2	12.4	11.7
Total Metals							
Aluminum	mg/L	0.0030	0.262	< 0.0060 DLA	< 0.0030	< 0.0150 DLA	0.0143
Antimony	mg/L	0.00010	0.146	0.112	0.0340	0.127	0.518
Arsenic	mg/L	0.00010	0.207	3.82	0.501	5.78	2.45
Barium	mg/L	0.00010	0.0647	0.0266	0.0243	0.0194	0.0394
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100 DLA	< 0.000100	< 0.000100 DLA	< 0.000100 DLA
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	< 0.000050	< 0.000250 DLA	< 0.000100 DLA
Boron	mg/L	0.010	0.310	0.185	0.190	0.055	0.337
Cadmium	mg/L	0.0000050	0.0000522	0.0000408	< 0.0000050	< 0.0000250 DLA	0.000184

		Sample Location	**SNP 43-23**	**SNP 43-29**	**SNP 43-30**	**SNP 43-31**	**SNP 43-32**
		Sample Date	**2024-09-28**	**2024-09-05**	**2024-09-05**	**2024-09-05**	**2024-09-05**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4323-240928**	**SNP4329-240905**	**SNP4330-240905**	**SNP4331-240905**	**SNP4332-240905**
		Laboratory Sample ID	**YL2401641-002**	**YL2401405-004**	**YL2401405-010**	**YL2401405-008**	**YL2401405-006**
Cesium	mg/L	0.000010	0.000122	0.000036	< 0.000010	< 0.000050 DLA	0.000092
Chromium (III+VI)	mg/L	0.00010	0.00048	< 0.00020 DLA	< 0.00010	< 0.00050 DLA	< 0.00020 DLA
Cobalt	mg/L	0.00010	0.00535	0.00866	0.00229	0.00098	0.00746
Copper	mg/L	0.00050	0.00894	0.0193	0.00395	0.00567	0.0184
Iron	mg/L	0.010	0.817	< 0.020 DLA	0.071	0.123	0.068
Lead	mg/L	0.000050	0.00388	< 0.000100 DLA	< 0.000050	0.000265	0.000116
Lithium	mg/L	0.0010	0.0322	0.0314	0.0361	0.0110	0.0184
Manganese	mg/L	0.00010	0.426	0.00991	0.0329	0.0117	0.0852
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.0106	0.0212	0.00441	0.00229	0.0218
Nickel	mg/L	0.00050	0.0108	0.0114	0.00719	0.0207	0.0310
Rubidium	mg/L	0.00020	0.0111	0.00472	0.00402	0.00399	0.00810
Selenium	mg/L	0.000050	0.000306	0.000668	0.000226	0.000340	0.000906
Silver	mg/L	0.000010	0.000037	0.000023	< 0.000010	< 0.000050 DLA	0.000105
Strontium	mg/L	0.00020	4.32	1.17	1.04	0.481	3.52
Sulphur (as S)	mg/L	0.50	493	394	247	343	603
Thallium	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	< 0.000010	< 0.000050 DLA	0.000042
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	< 0.00010	< 0.00050 DLA	< 0.00020 DLA
Titanium	mg/L	0.00030	< 0.0105 DLM	< 0.00060 DLA	< 0.00030	< 0.00150 DLA	< 0.00060 DLA
Uranium	mg/L	0.000010	0.00251	0.00845	0.00278	0.00182	0.00341
Vanadium	mg/L	0.00050	< 0.00100 DLA	0.00177	< 0.00050	< 0.00250 DLA	< 0.00100 DLA
Zinc	mg/L	0.0030	0.0238	0.0205	< 0.0030	< 0.0150 DLA	0.0270
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	< 0.00020	< 0.00100 DLA	< 0.00040 DLA
Dissolved Metals							
Aluminum	mg/L	0.0010	0.0032	0.0028 DLA	0.0018	< 0.0050 DLA	0.0026 DLA
Antimony	mg/L	0.00010	0.143	0.117 DLA	0.0331	0.128 DLA	0.532 DLA
Arsenic	mg/L	0.00010	0.0702	3.65 DLA	0.476	5.38 DLA	2.25 DLA
Barium	mg/L	0.00010	0.0642	0.0266 DLA	0.0235	0.0183 DLA	0.0372 DLA
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100 DLA	< 0.000100	< 0.000100 DLA	< 0.000100 DLA
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	< 0.000050	< 0.000250 DLA	< 0.000100 DLA
Boron	mg/L	0.010	0.287	0.216 DLA	0.235	0.056 DLA	0.419 DLA
Cadmium	mg/L	0.0000050	0.0000240	0.0000438 DLA	< 0.0000050	< 0.0000250 DLA	0.000175 DLA
Cesium	mg/L	0.000010	0.000074	0.000033 DLA	< 0.000010	< 0.000050 DLA	0.000088 DLA
Chromium (III+VI)	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	< 0.00010	< 0.00050 DLA	< 0.00020 DLA
Cobalt	mg/L	0.00010	0.00446	0.00819 DLA	0.00217	0.00083 DLA	0.00698 DLA
Copper	mg/L	0.00020	0.00181	0.0178 DLA	0.00361	0.00452 DLA	0.0161 DLA
Iron	mg/L	0.010	0.024	< 0.020 DLA	0.039	0.081 DLA	< 0.020 DLA
Lead	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	< 0.000050	< 0.000250 DLA	< 0.000100 DLA
Lithium	mg/L	0.0010	0.0321	0.0289 DLA	0.0339	0.0106 DLA	0.0173 DLA
Manganese	mg/L	0.00010	0.368	0.00886 DLA	0.0294	0.0107 DLA	0.0668 DLA
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.0104	0.0218 DLA	0.00435	0.00229 DLA	0.0228 DLA
Nickel	mg/L	0.00050	0.00946	0.0105 DLA	0.00673	0.0186 DLA	0.0278 DLA
Rubidium	mg/L	0.00020	0.0105	0.00452 DLA	0.00386	0.00326 DLA	0.00697 DLA
Selenium	mg/L	0.000050	0.000144	0.000580 DLA	0.000240	< 0.000250 DLA	0.000708 DLA
Silver	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	< 0.000010	< 0.000050 DLA	0.000053 DLA
Strontium	mg/L	0.00020	4.27	1.15 DLA	0.986	0.483 DLA	3.47 DLA

		Sample Location	**SNP 43-23**	**SNP 43-29**	**SNP 43-30**	**SNP 43-31**	**SNP 43-32**
		Sample Date	**2024-09-28**	**2024-09-05**	**2024-09-05**	**2024-09-05**	**2024-09-05**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**SNP4323-240928**	**SNP4329-240905**	**SNP4330-240905**	**SNP4331-240905**	**SNP4332-240905**
		Laboratory Sample ID	**YL2401641-002**	**YL2401405-004**	**YL2401405-010**	**YL2401405-008**	**YL2401405-006**
Sulphur (as S)	mg/L	0.50	425	379 DLA	236	338 DLA	585 DLA
Thallium	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	< 0.000010	< 0.000050 DLA	0.000036 DLA
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	< 0.00010	< 0.00050 DLA	< 0.00020 DLA
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00060 DLA	< 0.00030	< 0.00150 DLA	< 0.00060 DLA
Uranium	mg/L	0.000010	0.00247	0.00798 DLA	0.00254	0.00175 DLA	0.00325 DLA
Vanadium	mg/L	0.00050	< 0.00100 DLA	0.00156 DLA	< 0.00050	< 0.00250 DLA	< 0.00100 DLA
Zinc	mg/L	0.0010	0.0106	0.0181 DLA	< 0.0010	< 0.0050 DLA	0.0204 DLA
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	< 0.00020	< 0.00100 DLA	< 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 bottle broke in transit, no analysis was completed.

(c) Only GMRP dissolved parameters and fecal coliform bottles were collected

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 License - September 2024

			Week #	**Week 1**	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	**Week 8**	**Week 9**	**Week 10**	**Week 11**
			Sample Name	**SNP431-240713**	**SNP431-240717**	**SNP431-240723**	**SNP431-240731**	**SNP431-240806**	**SNP431-240813**	**SNP431-240819**	**SNP431-240828**	**SNP431-240903**	**SNP431-240910**	**SNP431-240918**
			Laboratory Sample ID	**YL2400894-014**	**YL2400938-001**	**YL2400989-007**	**YL2401054-006**	**YL2401115-001**	**YL2401169-010**	**YL2401218-003**	**YL2401325-004**	**YL2401382-002**	**YL2401444-007**	**YL2401537-004**
			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**	**9/3/2024**	**9/10/2024**	**9/18/2024**
Parameter	**Unit**	**MGC**	**Sample Type**	**W-Spigot**	**M - Spigot**	**W - Composite**	**W - Composite**	**M-Spigot**	**W - Composite**	**W - Composite**	**W - Composite**	**M-Spigot**	**W - Composite**	**W - Composite**
pH	-	6.5 - 8.5	-	7.4	7.8	7.7	8.1	7.0	7.5	7.7	7.9	7.6	7.9	8.1
Total arsenic	mg/L	0.6	-	0.29	0.27	0.25	0.25	0.24	0.26	0.28	0.27	0.29	0.28	0.26
Chloride	mg/L	720	-	449	462	471	491	498	510	514	501	509	517	507
Total copper	mg/L	0.06	-	0.012	0.010	0.0091	0.0080	0.0076	0.0079	0.009	0.0089	0.0096	0.0093	0.0079
Total lead	mg/L	0.006	-	0.00017	0.00015	0.00012	0.00005	0.000050	0.00005	0.00005	0.00005	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	0.010	0.010	0.009
Nitrate, as N	mg/L	25	-	0.47	0.5	0.5	0.5	0.5	0.5	0.5	0.52	0.47	0.45	0.42
Sulphate	mg/L	1440	-	1160	1160	1150	1180	1190	1180	1260	1200	1230	1250	1190
Total zinc	mg/L	0.2	-	0.0030	0.0030	0.0030	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	0.5	1.4	0.5
Total petroleum hydrocarbons	mg/L	5	-	0.19	0.19	0.19	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 License - September 2024

Parameter	**Unit**	**MAC**	**Weeks 1-4**	**Weeks 2-5**	**Weeks 3-6**	**Weeks 4-7**	**Weeks 5-8**	**Weeks 6-9**	**Weeks 7-10**	**Weeks 8-11**
pH	-	6.5 - 8.5	7.8	7.7	7.6	7.6	7.5	7.7	7.8	7.9
Total arsenic	mg/L	0.3	0.26	0.25	0.25	0.26	0.26	0.28	0.28	0.28
Chloride	mg/L	660	468	481	493	503	506	509	510	509
Total copper	mg/L	0.03	0.010	0.0087	0.0081	0.0080	0.0083	0.0087	0.0091	0.0089
Total lead	mg/L	0.003	0.00012	0.00009	0.00007	0.00005	0.00005	0.00005	0.00005	0.00005
Total nickel	mg/L	0.1	0.010	0.0093	0.01	0.01	0.01	0.009	0.010	0.010
Nitrate, as N	mg/L	13	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sulphate	mg/L	1310	1163	1170	1175	1203	1208	1218	1235	1218
Total zinc	mg/L	0.1	0.0030	0.0030	0.0030	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	1.6	1.2	1.2
Total petroleum hydrocarbons	mg/L	3	0.19	0.19	0.19	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 License - September 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	9/3/2024	9/10/2024	9/18/2024
MGC	mg/L	4.4	3.0	3.3	2.0	5.5	4.1	3.3	2.6	3.7	2.6	2
Total ammonia, as N	mg/L	0.011	0.015	0.022	0.030	0.019	0.027	0.019	0.019	0.02	0.0172	0.037
Average Concentrations	**Unit**	-	-	-	**Weeks 1-4**	**Weeks 2-5**	**Weeks 3-6**	**Weeks 4-7**	**Weeks 5-8**	**Weeks 6-9**	**Weeks 7-10**	**Weeks 8-11**
MAC	mg/L	-	-	-	1.5	1.7	1.8	1.8	2	1.7	1.5	1.3
Average total ammonia, as N	mg/L	-	-	-	0.020	0.021	0.024	0.024	0.021	0.02	0.02	0.023

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 License 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 - September 2024

	Station	**SNP 43-1**
	Sample Date	**2024-09-03**
	Sample Type	**Spigot**
	Unique Sample Identifier	**SNP431-ACUTE-240903**
	Laboratory Sample ID	**YL2401372-001**
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

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Table H: Summary of Shallow Groundwater Well Levels - September 2024

	Station	**MW00-02**	**MW00-03A**	**MW00-03B**	**MW01-2A**	**MW01-2B**	**MW00-04A**	**MW00-04B**
	Sample Date	**2024-09-09**	**2024-09-14**	**2024-09-14**	**2024-09-12**	**2024-09-12**	**2024-09-15**	**2024-09-15**
	Sample type	**-**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**-**
	Unique Sample Identifier	**-**	**MW0003A-240914**	**MW0003B-240914**	**MW012A-240912**	**MW012B-240912**	**MW0004A-240915**	**-**
	Laboratory Sample ID	**-**	**YL2401488-002**	**YL2401488-003**	**YL2401477-002**	**YL2401477-003**	**YL2401485-001**	**-**
Parameter								
Sample Method	N/A	Well dry - no purging or sampling completed.	Low-flow	Low-flow	Low-flow	Low-flow	Low-flow	Well purged dry.
Groundwater Level	mbPVC	-	1.804	1.661	2.601	3.431	4.220	3.048
Groundwater Level	mbgs	-	1.262	1.224	1.936	2.994	3.958	2.805
Depth to End of Well	mbPVC	25.071	10.655	19.577	12.445	9.500	10.195	4.408
Depth to End of Well	mbgs	24.620	10.113	19.140	11.780	9.063	9.933	4.165
Top of PVC from Ground	m	0.451	0.542	0.437	0.665	0.437	0.262	0.243
Top of Protective Casing from Ground	m	0.471	0.581	0.710	0.616	0.710	0.243	0.925

Notes:

Depth to groundwater: collected before any purging and represents a static water level.

Groundwater surface calculated by subtracting "top of PVC from ground surface" from "groundwater surface from top of PVC".

Well depth calculated by subtracting "top of PVC from ground surface" from "groundwater well depth from top of PVC".

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Table H: Summary of Shallow Groundwater Well Levels - September 2024

	Station	**MW00-04B**	**MW21-01**	**MW21-03**	**MW21-04**	**MW21-05**	**MW21-06**	**MW21-07**
	Sample Date	**2024-09-17**	**2024-09-26**	**2024-09-18**	**2024-09-26**	**2024-09-17**	**2024-09-10**	**2024-09-11**
	Sample type	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
	Unique Sample Identifier	**MW0004B-240917**	**GM-2024-5007-03**	**MW2103-240918**	**GM-2024-5007-01**	**MW2105-240917**	**MW2106-240910**	**MW2107-240911**
	Laboratory Sample ID	**YL2401536-002**	**YL2401626-003**	**YL2401537-001**	**YL2401626-001**	**YL2401536-003**	**YL2401444-008**	**YL2401475-001**
Parameter								
Sample Method	N/A	48 hour return visit - partial sample collected	Low-flow	Low-flow	Low-flow	Low-flow	Low-flow	Low-flow
Groundwater Level	mbPVC	3.797	2.381	2.596	2.783	11.190	8.850	2.919
Groundwater Level	mbgs	3.557	1.597	1.546	1.884	10.290	7.959	2.047
Depth to End of Well	mbPVC	4.408	3.108	3.781	4.162	23.968	24.490	16.275
Depth to End of Well	mbgs	4.168	2.324	2.731	3.263	23.068	23.599	15.403
Top of PVC from Ground	m	0.240	0.784	1.050	0.899	0.900	0.891	0.872
Top of Protective Casing from Ground	m	0.925	0.857	1.055	0.995	1.110	0.926	0.912

Notes:

Depth to groundwater: collected before any purging and represents a static water level.

Groundwater surface calculated by subtracting "top of PVC from ground surface" from "groundwater surface from top of PVC".

Well depth calculated by subtracting "top of PVC from ground surface" from "groundwater well depth from top of PVC".

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Table I: Summary of Analytical Results from OMP Stations - September 2024

		Station	**MW00-03A**	**MW00-03B**	**MW01-2A**	**MW01-2B**	**MW00-04A**	**MW00-04B**	**MW21-01**	**MW21-03**
		Sample Date	**2024-09-14**	**2024-09-14**	**2024-09-12**	**2024-09-12**	**2024-09-15**	**2024-09-17**	**2024-09-26**	**2024-09-18**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**MW0003A-240914**	**MW0003B-240914**	**MW012A-240912**	**MW012B-240912**	**MW0004A-240915**	**MW0004B-240917**	**GM-2024-5007-03**	**MW2103-240918**
		Laboratory Sample ID	**YL2401488-002**	**YL2401488-003**	**YL2401477-002**	**YL2401477-003**	**YL2401485-001**	**YL2401536-002**	**YL2401626-003**	**YL2401537-001**
Parameter	**Unit**	**LOR**								
Field Parameters										
Temperature	^{0}C	Range: -5 to 50ºC Resolution 0.01 0C Accuracy of +/- 010C	3.69	3.90	7.89	7.85	5.68	11.10	3.00	7.50
pH	pH Units	Range: 0-14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	7.35	7.46	7.75	7.15	7.23	7.24	6.91	6.96
Dissolved Oxygen	%	Range 20 - 60 mg/L Resolution 0.01 mg/L Accuracy +/- 2% reading	-	-	-	-	-	17.20	-	10.43
Dissolved Oxygen	mg/L	Range 0 - 20 mg/L Resolution 0.01 mg/L Accuracy +/- 0.1 mg/L	0.14	0.16	0.24	0.50	0.10	1.79	2.79	1.25
Oxygen Reduction Potential	mV	Range ± 1400 mV Resolution 0.1 mV Accuracy of ±2% of reading	-30.8	-54.2	-246.9	-163.2	-5.3	-133.0	71.8	-71.4
Specific Conductivity	µS/cm	Range: 0 to 350,000 µS/cm Resolution of 0.1 µS/cm Accuracy of ±0.5% of reading plus 1 µS/cm from 0 to 100,000 µS/cm	2975.0	2969.5	1146.7	1511.8	1495.7	1849.0	1301	1412.0
Turbidity [(a)]	NTU	Range 0 – 4,000 NTU Resolution 0.01 NTU (0-1,000) Accuracy +/- 5 mV	2.44	3.36	3.54	3.83	1.67	139.00	1.46	86.03
Data Quality Objectives		**Limit**								
pH	pH Units	1 pH Unit	0.52	0.46	0.84	**1.25**	0.66	0.74	**1.1**	0.80
Specific Conductivity	µS/cm	20% RPD	5.00%	1.34%	7.82%	2.13%	8.05%	13.20%	2.41%	10.59%
Conventional (Routine) Parameters										
pH	pH Units	0.10	7.87	7.92	8.59	8.4	7.89	7.98	8.01	7.76
Specific Conductivity	µS/cm	1.0	2830	2930	1240	1480	1380	1620	1270	1270
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.6	1480	1570	358	682	743	1080	595	590
Total Alkalinity, as $CaCO_3$	mg/L	1.0	288	292	326	290	294	309	149	303
Total Dissolved Solids	mg/L	3	2460	2440	800	1240	1190	1500	1060	937

		Station	MW00-03A	MW00-03B	MW01-2A	MW01-2B	MW00-04A	MW00-04B	MW21-01	MW21-03
		Sample Date	2024-09-14	2024-09-14	2024-09-12	2024-09-12	2024-09-15	2024-09-17	2024-09-26	2024-09-18
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
		Unique Sample Identifier	MW0003A-240914	MW0003B-240914	MW012A-240912	MW012B-240912	MW0004A-240915	MW0004B-240917	GM-2024-5007-03	MW2103-240918
		Laboratory Sample ID	YL2401488-002	YL2401488-003	YL2401477-002	YL2401477-003	YL2401485-001	YL2401536-002	YL2401626-003	YL2401537-001
Parameter	**Unit**	**LOR**								
Total Suspended Solids	mg/L	1.0	4.5	10.5	1.7	5.4	2.4	-	5.1	70.9
Turbidity	NTU	0.10	15.4	41.8	1.72	18.8	2.36	404	2.32	77.2
Major Ions										
Bicarbonate, as $CaCO_3$	mg/L	1.0	288	292	301	280	294	309	149	303
Calcium	mg/L	0.05	369	394	84.0	168	177	256	150	138
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	25.2	10.8	< 1.0	< 1.0	< 1.0	< 1.0
Chloride	mg/L	0.5	205	224	73.8	61.5	4.08	5.77	23.0	39.4
Fluoride	mg/L	0.02	< 0.400 DLDS	< 0.400 DLDS	0.237	< 0.100 DLDS	0.113	< 0.200 DLDS	0.115	0.225
Magnesium	mg/L	0.005	136	143	35.9	63.7	73.2	108	53.5	59.5
Potassium	mg/L	0.05	17.2	17.7	11.0	8.18	7.66	15.8	4.66	13.9
Sodium	mg/L	0.05	104	111	112	69.8	28.7	13.7	36.2	50.3
Sulphate	mg/L	0.3	1150	1190	233	472	510	776	531	387
Reactive silica	mg/L	0.5	9.64	9.90	11.9	12.8	10.6	7.46	11.3	23.2
Nutrients										
Nitrate, as N	mg/L	0.005	< 0.100 DLDS	< 0.100 DLDS	< 0.0250 DLDS	< 0.0250 DLDS	0.0976	< 0.0500 DLDS	0.0996	< 0.0250 DLDS
Nitrite, as N	mg/L	0.001	< 0.0200 DLDS	< 0.0200 DLDS	< 0.0050 DLDS	< 0.0050 DLDS	0.0067	< 0.0100 DLDS	< 0.0050 DLDS	< 0.0050 DLDS
Total Ammonia, as N	mg/L	0.0050	1.12	1.25	0.414	0.480	0.0148	0.985	0.298	1.13
Total Phosphorus (ICPMS), as P	mg/L	0.05	0.283	< 0.100 DLA	0.174	0.132	0.688	0.203	< 0.050	0.131
Total Phosphorus (Colourimetric), as P	mg/L	0.002	-	-	-	-	-	-	-	-
Organic Carbon										
Total organic carbon	mg/L	0.50	6.18	6.19	9.76	6.57	3.38	41.0	11.4	9.01
Dissolved organic carbon	mg/L	0.50	6.29	6.27	9.71	6.29	3.85	7.14	10.5	7.95
Total Metals										
Aluminum	mg/L	0.003	0.0315	0.0823	0.0167	0.0284	0.102	2.11	0.0224	1.34
Antimony	mg/L	0.0001	0.00427	0.00307	0.00047	0.00097	0.00247	0.00165	0.01	0.0104
Arsenic	mg/L	0.0001	0.0220	0.129	0.0198	0.0240	0.0327	0.0360	0.00609	0.103
Barium	mg/L	0.0001	0.0284	0.0325	0.186	0.136	0.0145	0.0552	0.0159	0.0462
Beryllium	mg/L	0.0001	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.0001	< 0.000100
Bismuth	mg/L	0.00005	< 0.000100 DLA	< 0.000100 DLA	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.00005	< 0.000050
Boron	mg/L	0.01	0.229	0.226	0.266	0.156	0.106	0.099	0.049	0.104
Cadmium	mg/L	0.000005	0.0000221	0.0000122	< 0.0000050	0.0000130	0.0000152	0.000121	0.0000166	0.0000683
Cesium	mg/L	0.00001	0.000081	0.000149	< 0.000010	< 0.000010	0.000031	0.000235	< 0.00001	0.000236
Chromium (III+VI)	mg/L	0.0001	< 0.00020 DLA	0.00023	0.00015	0.00027	0.00019	0.0187	0.00027	0.00365
Cobalt	mg/L	0.0001	0.00502	0.00674	0.00736	0.00578	0.00560	0.0647	0.00554	0.0312
Copper	mg/L	0.0005	< 0.00100 DLA	0.00305	< 0.00050	0.00058	0.00316	0.194	0.00309	0.00219
Iron	mg/L	0.01	1.51	3.94	0.246	2.28	0.197	41.6	0.473	6.37
Lead	mg/L	0.00005	0.000102	0.000283	0.000226	0.00259	0.000248	0.0141	< 0.00005	0.000818
Lithium	mg/L	0.001	0.0384	0.0396	0.0431	0.0358	0.0565	0.0546	0.0167	0.0856
Manganese	mg/L	0.0001	1.35	1.42	0.288	1.12	0.0690	1.69	0.00141	1.41
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	1.74	< 0.0000050

		Station	MW00-03A	MW00-03B	MW01-2A	MW01-2B	MW00-04A	MW00-04B	MW21-01	MW21-03
		Sample Date	2024-09-14	2024-09-14	2024-09-12	2024-09-12	2024-09-15	2024-09-17	2024-09-26	2024-09-18
		Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
		Unique Sample Identifier	MW0003A-240914	MW0003B-240914	MW012A-240912	MW012B-240912	MW0004A-240915	MW0004B-240917	GM-2024-5007-03	MW2103-240918
		Laboratory Sample ID	YL2401488-002	YL2401488-003	YL2401477-002	YL2401477-003	YL2401485-001	YL2401536-002	YL2401626-003	YL2401537-001
Parameter	**Unit**	**LOR**								
Molybdenum	mg/L	0.00005	0.00324	0.00522	0.000156	0.000150	0.00343	0.00762	< 0.000005	0.00073
Nickel	mg/L	0.0005	0.00247	0.00140	< 0.00050	0.00058	0.00142	0.0287	0.00571	0.00475
Rubidium	mg/L	0.0002	0.00558	0.00606	0.00234	0.00308	0.00188	0.00587	0.00114	0.00979
Selenium	mg/L	0.00005	0.000166	0.000144	< 0.000050	0.000072	0.00125	0.000136	0.000361	0.000151
Silver	mg/L	0.00001	< 0.000020 DLA	0.000032	< 0.000010	0.000054	0.000047	0.000157	< 0.00001	0.000043
Strontium	mg/L	0.0002	3.01	3.96	1.56	1.70	0.869	0.555	0.761	0.458
Sulphur (as S)	mg/L	0.5	390	413	78.0	172	180	226	182	142
Thallium	mg/L	0.00001	< 0.000020 DLA	< 0.000020 DLA	< 0.000010	< 0.000010	< 0.000010	0.000021	0.000047	0.000029
Tin	mg/L	0.0001	< 0.00020 DLA	< 0.00020 DLA	< 0.00010	< 0.00010	< 0.00010	0.00059	< 0.0001	0.00014
Titanium	mg/L	0.0003	< 0.00120 DLM	< 0.00690 DLM	0.00066	< 0.00120 DLM	< 0.00360 DLM	0.0985	< 0.0012 DLM	0.0737
Uranium	mg/L	0.00001	0.0419	0.0345	0.00384	0.00566	0.0554	0.0735	0.0121	0.00447
Vanadium	mg/L	0.0005	0.00150	0.00220	< 0.00050	0.00097	0.00114	0.00491	< 0.0005	0.00404
Zinc	mg/L	0.003	< 0.0060 DLA	< 0.0060 DLA	< 0.0030	0.0084	0.0082	0.0256	< 0.003	0.009
Zirconium	mg/L	0.0002	< 0.00040 DLA	< 0.00060 DLM	0.00024	0.00072	< 0.00020	0.00102	0.00038	0.0012
Dissolved Metals										
Aluminum	mg/L	0.001	< 0.0020 DLA	< 0.0020 DLA	0.0012	0.0037	0.0084	0.0015	0.0134	0.0018
Antimony	mg/L	0.0001	0.00444	0.00157	0.00030	0.00067	0.00237	0.00135	0.00926	0.00803
Arsenic	mg/L	0.0001	0.0204	0.0951	0.0169	0.0161	0.0332	0.00338	0.00656	0.0364
Barium	mg/L	0.0001	0.0277	0.0304	0.182	0.132	0.0136	0.0214	0.0167	0.0354
Beryllium	mg/L	0.0001	< 0.000100 DLA	< 0.000100 DLA	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.00002	< 0.000100
Bismuth	mg/L	0.00005	< 0.000100 DLA	< 0.000100 DLA	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.00005	< 0.000050
Boron	mg/L	0.01	0.235	0.230	0.295	0.170	0.103	0.096	0.045	0.09
Cadmium	mg/L	0.000005	0.0000130	< 0.0000100 DLA	< 0.0000050	< 0.0000050	0.0000158	0.000154	0.000017	0.0000468
Cesium	mg/L	0.00001	0.000077	0.000149	< 0.000010	< 0.000010	0.000027	< 0.000010	< 0.00001	0.000024
Chromium (III+VI)	mg/L	0.0001	< 0.00020 DLA	< 0.00020 DLA	< 0.00010	0.00014	< 0.00010	< 0.00010	0.00022	< 0.00010
Cobalt	mg/L	0.0001	0.00493	0.00646	0.00640	0.00554	0.00532	0.339 DTMF	0.00566	0.0286
Copper	mg/L	0.0002	0.00044	< 0.00040 DLA	< 0.00020	< 0.00020	0.00217	0.00137	0.00282	< 0.00020
Iron	mg/L	0.01	1.33	3.18	0.167	2.16	0.110	5.74	0.643 DTC	3.51
Lead	mg/L	0.00005	< 0.000100 DLA	< 0.000100 DLA	< 0.000050	< 0.000050	0.000051	< 0.000050	< 0.00005	< 0.000050
Lithium	mg/L	0.001	0.0381	0.0393	0.0388	0.0338	0.0548	0.0624	0.0149	0.0679
Manganese	mg/L	0.0001	1.31	1.40	0.301	1.09	0.0681	1.20	1.92	1.25
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.000005	< 0.0000050
Molybdenum	mg/L	0.00005	0.00324	0.00488	0.000144	0.000115	0.00345	0.00705	0.00517	0.000625
Nickel	mg/L	0.0005	0.00264	0.00134	< 0.00050	0.00051	0.00132	0.0254	0.0043	0.00228
Rubidium	mg/L	0.0002	0.00525	0.00626	0.00204	0.00310	0.00189	0.00355	0.0011	0.00712
Selenium	mg/L	0.00005	0.000101	< 0.000100 DLA	0.000061	0.000079	0.00135	0.00108 DTSE	0.000376	0.000118
Silver	mg/L	0.00001	< 0.000020 DLA	< 0.000020 DLA	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.00001	< 0.000010
Strontium	mg/L	0.0002	2.90	3.91	1.56	1.65	0.872	0.559	0.000464	0.464
Sulphur (as S)	mg/L	0.5	379	407	65.3	165	173	232	182	130
Thallium	mg/L	0.00001	< 0.000020 DLA	< 0.000020 DLA	< 0.000010	< 0.000010	< 0.000010	< 0.000010	0.00004	< 0.000010
Tin	mg/L	0.0001	< 0.00020 DLA	< 0.00020 DLA	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.0001	< 0.00010

		Station	MW00-03A	MW00-03B	MW01-2A	MW01-2B	MW00-04A	MW00-04B	MW21-01	MW21-03
		Sample Date	**2024-09-14**	**2024-09-14**	**2024-09-12**	**2024-09-12**	**2024-09-15**	**2024-09-17**	**2024-09-26**	**2024-09-18**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**MW0003A-240914**	**MW0003B-240914**	**MW012A-240912**	**MW012B-240912**	**MW0004A-240915**	**MW0004B-240917**	**GM-2024-5007-03**	**MW2103-240918**
		Laboratory Sample ID	**YL2401488-002**	**YL2401488-003**	**YL2401477-002**	**YL2401477-003**	**YL2401485-001**	**YL2401536-002**	**YL2401626-003**	**YL2401537-001**
Parameter	**Unit**	**LOR**								
Titanium	mg/L	0.0003	< 0.00060 DLA	< 0.00060 DLA	< 0.00030	< 0.00030	< 0.00060 DLM	< 0.00030	0.00052	< 0.00030
Uranium	mg/L	0.00001	0.0416	0.0336	0.00443	0.00604	0.0520	0.136 DTMF	0.00022	0.004
Vanadium	mg/L	0.0005	0.00140	< 0.00100 DLA	< 0.00050	0.00077	0.00088	< 0.00050	0.0103	< 0.00050
Zinc	mg/L	0.001	0.0046	< 0.0020 DLA	< 0.0010	0.0038	0.0064	0.0066	0.0015	0.0026
Zirconium	mg/L	0.0002	< 0.00040 DLA	< 0.00040 DLA	0.00027	0.00062	< 0.00020	< 0.00020	0.00042	0.00022

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.

Shaded Grey & Bold = Exceeded Data Quality Objectives

(a) Field turbidity is the arithmetic mean of three readings.

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

Table I: Summary of Analytical Results from OMP Stations - September 2024

		Station	**MW21-04**	**MW21-05**	**MW21-06**	**MW21-07**	**MW21-08**
		Sample Date	**2024-09-26**	**2024-09-17**	**2024-09-10**	**2024-09-11**	**2024-09-11**
		Sample Type	**Grab**	**Grab**	**Grab**	**Grab**	**Grab**
		Unique Sample Identifier	**GM-2024-5007-01**	**MW2105-240917**	**MW2106-240910**	**MW2107-240911**	**MW2108-240911**
		Laboratory Sample ID	**YL2401626-001**	**YL2401536-003**	**YL2401444-008**	**YL2401475-001**	**YL2401475-002**
Parameter	**Unit**	**LOR**					
Field Parameters							
Temperature	^{0}C	Range: -5 to 50ºC Resolution 0.01 0C Accuracy of +/- 010C	7.50	12.10	8.52	8.47	10.64
pH	pH Units	Range: 0-14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	8.19	7.52	9.47	8.99	7.47
Dissolved Oxygen	%	Range 20 - 60 mg/L Resolution 0.01 mg/L Accuracy +/- 2% reading	-	78.00	30.11	3.14	9.27
Dissolved Oxygen	mg/L	Range 0 - 20 mg/L Resolution 0.01 mg/L Accuracy +/- 0.1 mg/L	2.89	0.65	3.39	0.35	0.99
Oxygen Reduction Potential	mV	Range ± 1400 mV Resolution 0.1 mV Accuracy of ±2% of reading	-28.2	-148.1	114.5	209.1	-145.2
Specific Conductivity	µS/cm	Range: 0 to 350,000 µS/cm Resolution of 0.1 µS/cm Accuracy of ±0.5% of reading plus 1 µS/cm from 0 to 100,000 µS/cm	470.8	706.0	731.7	798.6	1347.9
Turbidity [(a)]	NTU	Range 0 – 4,000 NTU Resolution 0.01 NTU (0-1,000) Accuracy +/- 5 mV	3.12	141.33	27.03	4.64	12.27
Data Quality Objectives		**Limit**					
pH	pH Units	1 pH Unit	0.37	0.64	0.72	0.19	**1.05**
Specific Conductivity	µS/cm	20% RPD	4.00%	14.26%	**21.07%**	0.58%	2.09%
Conventional (Routine) Parameters							
pH	pH Units	0.10	8.56	8.16	8.75	8.8	8.52
Specific Conductivity	µS/cm	1.0	490	612	904	794	1320
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.6	215	362	21.7	14.9	201
Total Alkalinity, as $CaCO_3$	mg/L	1.0	221	295	258	300	397
Total Dissolved Solids	mg/L	3	350	440	689	586	924

		Station	MW21-04	MW21-05	MW21-06	MW21-07	MW21-08
		Sample Date	2024-09-26	2024-09-17	2024-09-10	2024-09-11	2024-09-11
		Sample Type	Grab	Grab	Grab	Grab	Grab
		Unique Sample Identifier	GM-2024-5007-01	MW2105-240917	MW2106-240910	MW2107-240911	MW2108-240911
		Laboratory Sample ID	YL2401626-001	YL2401536-003	YL2401444-008	YL2401475-001	YL2401475-002
Parameter	**Unit**	**LOR**					
Total Suspended Solids	mg/L	1.0	2.5	711	71.8	2.6	31
Turbidity	NTU	0.10	2.94	79.2	24	5.23	19
Major Ions							
Bicarbonate, as $CaCO_3$	mg/L	1.0	201	295	235	274	375
Calcium	mg/L	0.05	60.1	76.5	5.88	4.69	48.6
Carbonate, as $CaCO_3$	mg/L	1.0	20.4	< 1.0	23.6	25.8	22.2
Chloride	mg/L	0.5	3.61	1.95	6.40	2.55	43.9
Fluoride	mg/L	0.02	0.191	0.138	0.630	0.249	0.123
Magnesium	mg/L	0.005	15.8	41.4	1.70	0.766	19.4
Potassium	mg/L	0.05	8.98	2.27	1.47	1.44	2.02
Sodium	mg/L	0.05	7.22	27.9	210	189	238
Sulphate	mg/L	0.3	43.2	57.2	196	124	269
Reactive silica	mg/L	0.5	33.0	10.3	17.3	12.9	18.2
Nutrients							
Nitrate, as N	mg/L	0.005	< 0.0050	< 0.0050	0.327	0.344	< 0.0250 DLDS
Nitrite, as N	mg/L	0.001	0.0014	< 0.0010	0.142	< 0.0050 DLDS	< 0.0050 DLDS
Total Ammonia, as N	mg/L	0.0050	0.108	0.173	0.0728	0.0350	0.311
Total Phosphorus (ICPMS), as P	mg/L	0.05	0.102	0.486	0.394	0.311	0.204
Total Phosphorus (Colourimetric), as P	mg/L	0.002	-	-	-	-	-
Organic Carbon							
Total organic carbon	mg/L	0.50	10.2	16.1	5.75	4.26	8.92
Dissolved organic carbon	mg/L	0.50	11.5	10.1	5.42	3.42	8.91
Total Metals							
Aluminum	mg/L	0.003	0.0293	5.80	3.98	0.253	0.630
Antimony	mg/L	0.0001	0.00515	0.00182	0.00291	0.00093	0.00051
Arsenic	mg/L	0.0001	0.00948	0.0262	0.0420	0.00980	0.0256
Barium	mg/L	0.0001	0.0441	0.184	0.0170	0.0130	0.0432
Beryllium	mg/L	0.0001	< 0.0001	0.00164	0.000196	< 0.000100	< 0.000100
Bismuth	mg/L	0.00005	< 0.00005	0.000244	0.000051	< 0.000050	< 0.000050
Boron	mg/L	0.01	0.026	0.050	1.29	0.269	0.505
Cadmium	mg/L	0.000005	0.0000112	0.000131	0.0000878	0.0000334	0.0000472
Cesium	mg/L	0.00001	0.000012	0.000934	0.000200	0.000019	0.000024
Chromium (III+VI)	mg/L	0.0001	0.00065	0.00371	0.00148	0.00045	0.00252
Cobalt	mg/L	0.0001	0.00112	0.00341	0.00060	0.00029	0.00104
Copper	mg/L	0.0005	0.0016	0.0144	0.00326	0.00254	0.00269
Iron	mg/L	0.01	0.63	7.68	1.90	0.572	1.56
Lead	mg/L	0.00005	< 0.00005	0.0107	0.00416	0.000382	0.000911
Lithium	mg/L	0.001	0.0145	0.0128	0.0447	0.0108	0.0278
Manganese	mg/L	0.0001	0.00141	1.55	0.0530	0.0202	0.935
Mercury	mg/L	0.0000050	0.25	0.0000166	0.0000057	0.0000070	< 0.0000050

		Station	MW21-04	MW21-05	MW21-06	MW21-07	MW21-08
		Sample Date	2024-09-26	2024-09-17	2024-09-10	2024-09-11	2024-09-11
		Sample Type	Grab	Grab	Grab	Grab	Grab
		Unique Sample Identifier	GM-2024-5007-01	MW2105-240917	MW2106-240910	MW2107-240911	MW2108-240911
		Laboratory Sample ID	YL2401626-001	YL2401536-003	YL2401444-008	YL2401475-001	YL2401475-002
Parameter	**Unit**	**LOR**					
Molybdenum	mg/L	0.00005	< 0.000005	0.00350	0.0253	0.0171	0.00398
Nickel	mg/L	0.0005	0.00104	0.00644	0.00223	0.00330	0.00330
Rubidium	mg/L	0.0002	0.00528	0.00982	0.00313	0.00078	0.00131
Selenium	mg/L	0.00005	0.000475	0.000262	0.00164	0.000765	0.000118
Silver	mg/L	0.00001	< 0.00001	0.000313	0.000514	0.000118	0.000136
Strontium	mg/L	0.0002	0.147	0.660	0.0401	0.0430	0.420
Sulphur (as S)	mg/L	0.5	16.2	17.4	65.8	50.5	97.5
Thallium	mg/L	0.00001	0.000016	0.000081	0.000017	0.000012	0.000021
Tin	mg/L	0.0001	< 0.0001	0.00074	0.00122	0.00092	0.00050
Titanium	mg/L	0.0003	0.00122	0.0904	0.0737	0.00739	0.0240
Uranium	mg/L	0.00001	0.0072	0.00522	0.00427	0.00522	0.00177
Vanadium	mg/L	0.0005	0.00373	0.00684	0.00285	0.00098	0.00190
Zinc	mg/L	0.003	< 0.003	0.0380	0.0412	0.0088	0.0125
Zirconium	mg/L	0.0002	0.00049	0.00658	0.00394	0.00042	0.00082
Dissolved Metals							
Aluminum	mg/L	0.001	0.0106	0.0027	0.978	0.0523	0.129
Antimony	mg/L	0.0001	0.00506	0.00056	0.00179	0.00096	0.00037
Arsenic	mg/L	0.0001	0.00894	0.0197	0.0312	0.0190 DTMF	0.0369 DTMF
Barium	mg/L	0.0001	0.04	0.0819	0.0106	0.00617	0.0415
Beryllium	mg/L	0.0001	< 0.00002	< 0.000100	< 0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.00005	< 0.00005	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Boron	mg/L	0.01	0.024	0.051	1.28	0.294	0.588
Cadmium	mg/L	0.000005	0.0000084	< 0.0000050	0.0000535	0.0000082	0.0000190
Cesium	mg/L	0.00001	0.000013	0.000012	0.000085	< 0.000010	< 0.000010
Chromium (III+VI)	mg/L	0.0001	0.00052	0.00020	0.00037	0.00012	0.00055
Cobalt	mg/L	0.0001	0.0011	0.00072	0.00027	< 0.00010	0.00074
Copper	mg/L	0.0002	0.0013	0.00020	0.00289	0.00128	0.00106
Iron	mg/L	0.01	0.556	2.20	0.538	0.080	1.10
Lead	mg/L	0.00005	< 0.00005	< 0.000050	0.00166	0.000091	0.000364
Lithium	mg/L	0.001	0.0126	0.0110	0.0422	0.0146 DTMF	0.0256
Manganese	mg/L	0.0001	0.258	1.41	0.0325	0.00184	0.848
Mercury	mg/L	0.0000050	< 0.000005	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.00005	0.00115	0.00321	0.0265	0.00830	0.00395
Nickel	mg/L	0.0005	0.00357	0.00129	0.00211	0.00112	0.00272
Rubidium	mg/L	0.0002	0.00495	0.00154	0.00205	0.00053	0.00109
Selenium	mg/L	0.00005	0.000491	0.000116	0.00180	0.000878	0.000097
Silver	mg/L	0.00001	< 0.00001	< 0.000010	0.000128	0.000025	0.000026
Strontium	mg/L	0.0002	0.000464	0.654	0.0383	0.0200	0.399
Sulphur (as S)	mg/L	0.5	15.5	19.7	70.6	42.8	96.4
Thallium	mg/L	0.00001	0.000015	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Tin	mg/L	0.0001	< 0.0001	< 0.00010	0.00044	0.00022	0.00033

		Station	MW21-04	MW21-05	MW21-06	MW21-07	MW21-08
		Sample Date	2024-09-26	2024-09-17	2024-09-10	2024-09-11	2024-09-11
		Sample Type	Grab	Grab	Grab	Grab	Grab
		Unique Sample Identifier	GM-2024-5007-01	MW2105-240917	MW2106-240910	MW2107-240911	MW2108-240911
		Laboratory Sample ID	YL2401626-001	YL2401536-003	YL2401444-008	YL2401475-001	YL2401475-002
Parameter	**Unit**	**LOR**					
Titanium	mg/L	0.0003	0.00046	< 0.00030	0.0260	< 0.00120 DLM	0.00424
Uranium	mg/L	0.00001	0.00332	0.00241	0.00418	0.00255	0.00167
Vanadium	mg/L	0.0005	0.0071	0.00052	0.00192	0.00068	0.00085
Zinc	mg/L	0.001	< 0.001	< 0.0010	0.0216	0.0086	0.0090
Zirconium	mg/L	0.0002	0.00047	0.00043	0.00133	< 0.00020	0.00044

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.

Shaded Grey & Bold = Exceeded Data Quality Objectives

(a) Field turbidity is the arithmetic mean of three readings.

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

Table J: Deep Multiport Groundwater Monitoring Station Pressure Measurements - September 2024

Station	S-DIAND-001			S-1857			S-1859			S-1860			S-1858B			S-DIAND-021			S-1954			S-1956			S-DIAND-023		
Date Visited	2024-09-21			2024-09-22			2024-09-22			2024-09-23			2024-09-23			2024-09-24			2024-09-24			2024-09-25			2024-09-26		
Zone No.	Inside Casing	Outside Casing	Inside Casing	Inside Casing	Outside Casing	Inside Casing	Inside Casing	Outside Casing	Inside Casing	Inside Casing	Outside Casing	Inside Casing	Inside Casing	Outside Casing	Inside Casing	Inside Casing	Outside Casing	Inside Casing	Inside Casing	Outside Casing	Inside Casing	Inside Casing	Outside Casing	Inside Casing	Inside Casing	Outside Casing	Inside Casing
1	116.29	146.01	116.28	52.54	19.99	52.58	116.43	122.42	116.43	105.68	92.66	105.67	35.28	99.94	35.30				75.53	33.86	75.55	31.49	22.52	31.43	132.83	156.92	132.79
2	114.53	144.05	114.52	48.36	23.73	48.39	114.30	120.93	114.30	99.43	158.24	99.45	33.21	100.45	33.23				73.64	104.16	73.62	29.47	198.01	29.50	131.00	157.26	131.02
3	102.31	118.11	102.32	25.55	22.27	25.56	86.88	99.03	86.87	93.21	158.23	93.19	14.49	77.16	14.51				52.70	83.41	52.65	14.30	179.98	14.35	111.24	136.55	111.25
4	93.60	102.66	93.61	14.47	181.38	14.55	63.67	77.28	63.66	78.64	116.63	78.65	14.42	60.32	14.43				31.48	64.92	31.49	14.28	167.38	14.30	91.34	121.76	91.35
5	81.31	87.86	81.31	14.48	151.01	14.52	40.45	53.34	40.46	47.53	85.05	47.53	14.42	38.44	14.42				14.14	42.66	14.18	14.26	145.46	14.30	75.01	107.02	75.04
6	65.35	73.45	65.36	14.46	136.27	14.47	25.68	35.67	25.66	16.43	69.10	16.40	14.34	27.98	14.38							14.25	124.77	14.29	58.62	92.88	58.62
7	49.20	63.72	49.20	14.47	117.91	14.45	14.43	53.19	14.40	14.34	43.38	14.28	14.32	14.41	14.32							14.24	103.24	14.28	34.88	71.60	34.88
8	32.87	47.53	32.87	14.42	87.53	14.37							14.31	19.39	14.37	91.49	84.19	91.48				14.22	82.75	14.23	14.13	48.13	14.14
9	23.73	38.09	23.73	14.31	56.68	14.37							14.37	19.69	14.31	74.36	73.18	74.35				14.20	68.69	14.21	14.09	35.05	14.09
10	14.47	20.19	14.47	14.37	42.28	14.31							14.26	17.37	14.26	54.85	54.86	54.86				14.12	56.12	14.13	14.09	24.15	14.15
11																35.82	36.23	35.82									
12																21.92	21.19	21.92									

Station	S-1955			S-2224			S-DIAND-022		
Date Visited	2024-09-27			2024-09-27			2024-09-30		
Zone No.	Inside Casing	Outside Casing	Inside Casing	Inside Casing	Outside Casing	Inside Casing	Inside Casing	Outside Casing	Inside Casing
1	16.67	29.06	16.77	151.80	120.72	151.82	171.45	191.83	171.46
2	14.42	29.93	14.45	149.74	181.17	149.75	169.87	190.49	169.85
3	14.41	22.65	14.43	127.05	171.16	127.06	149.16	168.22	149.17
4	14.38	22.18	14.36	104.40	148.89	104.41	131.43	143.42	131.43
5	14.33	21.75	14.37	81.76	126.37	81.77	118.97	133.12	118.98
6	14.31	87.77	14.32	59.17	103.36	59.17	109.06	132.03	109.07
7	14.27	65.78	14.26	36.55	80.78	36.56	88.34	123.06	88.34
8				14.23	69.03	14.24	73.38	103.58	73.39
9				14.18	55.92	14.19	55.03	89.26	55.03
10				14.16	34.25	14.19	43.25	77.76	43.26
11							24.01	59.35	24.01
12							14.26	33.45	14.35

Notes:
Shading indicates that the zone does not exist or is not accessible
Pressure measurements are in pounds per square inch (psi).
Inside Casing - A measurement of pressure inside the well casing.
Outside Casing - A measurement of formation pressure, outside the well casing.

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

Table K: Summary of Analytical Results for Deep Multiport Groundwater Monitoring Stations - September 2024

		Station	S-DIAND-001			S-DIAND-022		
		Sample Date	2024-09-21	2024-09-21	2024-09-21	2024-09-30	2024-09-30	2024-09-30
		Sample Type	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay
		Unique Sample Identifier	SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SDIAND022Z2-240930	SDIAND022Z4-240930	SDIAND022Z11-240930
		Laboratory Sample ID	YL2401570-001	YL2401570-002	YL2401570-003	YL2401640-001	YL2401640-002	YL2401640-003
		Zone ID	4	8	10	2	4	11
Parameter Name	**Unit**	**LOR**						
Field Parameters								
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	5.50	7.10	8.80	4.40	4.64	4.33
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	7.99	7.40	7.06	7.44	7.92	7.26
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	80.00	32.40	27.50	88.88	77.35	59.51
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	9.88	3.83	3.12	11.12	9.63	7.44
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	1102.0	1283.0	1732.0	785.2	429.7	1364.1
ORP	mV	Range ± 1400 mV Resolution 0.1 mV Accuracy of ±2% of reading	-142.7	-113.8	145.6	224.8	202.6	-6.8
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	0.57	0.65	0.24	3.69	1.43	0.25
Data Quality Objective		**Limit**						
pH	pH Units	1 pH Unit	0.56	0.90	**1.15**	0.77	0.25	0.88
Specific Conductivity	µS/cm	20% RPD	16.61%	18.10%	15.69%	4.22%	3.95%	15.32%
Conventional (Routine) Parameters								
pH	pH Units	0.10	8.55	8.3	8.21	8.21	8.17	8.14
Specific Conductivity	µS/cm	1.0	933	1070	1480	819	413	1170

		Station	S-DIAND-001			S-DIAND-022		
		Sample Date	2024-09-21	2024-09-21	2024-09-21	2024-09-30	2024-09-30	2024-09-30
		Sample Type	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay
		Unique Sample Identifier	SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SDIAND022Z2-240930	SDIAND022Z4-240930	SDIAND022Z11-240930
		Laboratory Sample ID	YL2401570-001	YL2401570-002	YL2401570-003	YL2401640-001	YL2401640-002	YL2401640-003
		Zone ID	4	8	10	2	4	11
Parameter Name	**Unit**	**LOR**						
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	211	544	853	367	121	544
Total Alkalinity, as $CaCO_3$	mg/L	1.0	264	292	293	196	140	346
Total Dissolved Solids	mg/L	3.0	612	737	1140	597	314	1060
Total Suspended Solids	mg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4
Turbidity [(a)]	NTU	0.10	0.59	1.19	0.36	3.06	2.03	13
Major Ions								
Bicarbonate, as $CaCO_3$	mg/L	1.0	245	289	293	196	140	346
Calcium	mg/L	0.050	41.4	122	206	89.1	27.7	134
Carbonate, as $CaCO_3$	mg/L	1.0	18.8	3.2	< 1.0	< 1.0	< 1.0	< 1.0
Chloride	mg/L	0.50	36.8	33.3	27.2	104	9.24	203
Fluoride	mg/L	0.020	0.125	0.106	< 0.100 DLDS	0.272	0.615	< 0.100 DLDS
Magnesium	mg/L	0.0050	26.1	58.2	82.2	35.2	12.5	50.8
Potassium	mg/L	0.050	2.22	4.40	7.12	1.98	1.59	6.55
Sodium	mg/L	0.050	142	38.0	29.1	32.2	57.1	63.8
Sulphate	mg/L	0.30	188	236	576	79.6	69.8	91.4
Reactive silica	mg/L	0.50	10.9	11.0	14.3	10.6	8.19	13.3
Nutrients								
Nitrate, as N	mg/L	0.0050	0.581	11.8	0.142	2.76	6.08	0.0938
Nitrite, as N	mg/L	0.0010	< 0.0050 DLDS	< 0.0050 DLDS	0.0080	< 0.0050 DLDS	< 0.0010	< 0.0050 DLDS
Total Ammonia, as N	mg/L	0.0050	0.542	0.551	0.403	0.372	0.272	0.331
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Total Phosphorus (Colourimetric), as P	mg/L	0.0020	-	-	-	-	-	-
Organic Carbon								
Total organic carbon	mg/L	0.50	4.85 RRV	6.85 RRV	5.41	3.90	6.07	7.06
Dissolved organic carbon	mg/L	0.50	6.40 RRV	8.14	6.11	3.88	6.72	7.23
Total Metals								
Aluminum	mg/L	0.0030	0.0048	0.0046	0.0040	0.0046	0.0032	0.0036
Antimony	mg/L	0.00010	0.00063	0.00082	0.0244	0.00014	< 0.00010	0.00012
Arsenic	mg/L	0.00010	0.0182	0.0435	0.0339	0.00209	0.00244	0.0284
Barium	mg/L	0.00010	0.0210	0.0634	0.0340	0.0429	0.0612	0.161
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Boron	mg/L	0.010	1.02	0.364	0.170	0.271	0.667	0.086
Cadmium	mg/L	0.0000050	< 0.0000050	< 0.0000050	0.0000344	< 0.0000050	< 0.0000050	< 0.0000050
Cesium	mg/L	0.000010	0.000093	0.000069	0.000067	0.000084	0.000066	0.000071
Chromium (III+VI)	mg/L	0.00010	0.00014	0.00064	0.00096	0.00047	0.00027	0.00236
Cobalt	mg/L	0.00010	0.00033	0.00035	0.0641	< 0.00010	< 0.00010	0.00020
Copper	mg/L	0.00050	< 0.00050	0.00424	0.00539	< 0.00050	< 0.00050	< 0.00050

		Station	S-DIAND-001			S-DIAND-022		
		Sample Date	2024-09-21	2024-09-21	2024-09-21	2024-09-30	2024-09-30	2024-09-30
		Sample Type	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay
		Unique Sample Identifier	SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SDIAND022Z2-240930	SDIAND022Z4-240930	SDIAND022Z11-240930
		Laboratory Sample ID	YL2401570-001	YL2401570-002	YL2401570-003	YL2401640-001	YL2401640-002	YL2401640-003
		Zone ID	4	8	10	2	4	11
Parameter Name	**Unit**	**LOR**						
Iron	mg/L	0.010	0.039	0.133	0.060	0.244	0.535	1.55
Lead	mg/L	0.000050	< 0.000050	< 0.000050	0.000053	< 0.000050	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	0.0418	0.0359	0.0486	0.0171	0.0158	0.0295
Manganese	mg/L	0.00010	0.0238	0.0956	0.846	0.00730	0.0181	0.254
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.000364	0.000366	0.00335	0.0186	0.0172	0.00127
Nickel	mg/L	0.00050	0.00060	0.00198	0.115	< 0.00050	< 0.00050	0.00083
Rubidium	mg/L	0.00020	0.00160	0.00245	0.00283	0.00198	0.00146	0.00227
Selenium	mg/L	0.000050	< 0.000050	0.000086	0.000347	< 0.000050	< 0.000050	< 0.000050
Silver	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	0.768	1.47	1.10	5.73	1.58	1.45
Sulphur (as S)	mg/L	0.50	76.5	96.5	204	30.6	27.0	35.2
Thallium	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Tin	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	0.00010	< 0.00010
Titanium	mg/L	0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030
Uranium	mg/L	0.000010	0.000059	0.00274	0.00285	0.00188	0.000141	0.00480
Vanadium	mg/L	0.00050	< 0.00050	0.00060	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Zinc	mg/L	0.0030	0.0060	0.0244	0.0221	0.0122	0.0049	0.0084
Zirconium	mg/L	0.00020	< 0.00020	< 0.00070 DLM	0.00022	0.00058	< 0.00020	0.00027
Dissolved Metals								
Aluminum	mg/L	0.0010	0.0042	0.0022	0.0017	0.0049	0.0020	0.0019
Antimony	mg/L	0.00010	0.00056	0.00057	0.0148	< 0.00020 DLA	< 0.00010	0.00012
Arsenic	mg/L	0.00010	0.0200	0.0207	0.0616 DTC	0.00151	0.00219	0.0274
Barium	mg/L	0.00010	0.0221	0.0651	0.0304	0.0466	0.0666	0.179
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000100 DLA	< 0.000050	< 0.000050
Boron	mg/L	0.010	0.840	0.283	0.164	0.253	0.546	0.076
Cadmium	mg/L	0.0000050	< 0.0000050	< 0.0000050	0.0000113	< 0.0000100 DLA	< 0.0000050	< 0.0000050
Cesium	mg/L	0.000010	0.000096	0.000068	0.000067	0.000085	0.000066	0.000071
Chromium (III+VI)	mg/L	0.00010	0.00011	0.00042	0.00044	< 0.00020 DLA	0.00029	0.00190
Cobalt	mg/L	0.00010	0.00035	0.00031	0.0492	< 0.00020 DLA	< 0.00010	0.00018
Copper	mg/L	0.00020	0.00025	0.00023	0.00448	< 0.00040 DLA	< 0.00020	< 0.00020
Iron	mg/L	0.010	0.035	0.105	0.103 DTC	0.250	0.498	1.46
Lead	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000100 DLA	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	0.0415	0.0350	0.0483	0.0178	0.0146	0.0291
Manganese	mg/L	0.00010	0.0250	0.0965	0.718	0.00773	0.0174	0.245
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.000376	0.000330	0.00357	0.0183	0.0178	0.00119

		Station	S-DIAND-001			S-DIAND-022		
		Sample Date	2024-09-21	2024-09-21	2024-09-21	2024-09-30	2024-09-30	2024-09-30
		Sample Type	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay
		Unique Sample Identifier	SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SDIAND022Z2-240930	SDIAND022Z4-240930	SDIAND022Z11-240930
		Laboratory Sample ID	YL2401570-001	YL2401570-002	YL2401570-003	YL2401640-001	YL2401640-002	YL2401640-003
		Zone ID	4	8	10	2	4	11
Parameter Name	**Unit**	**LOR**						
Nickel	mg/L	0.00050	0.00140	0.00104	0.0969	< 0.00100 DLA	< 0.00050	0.00065
Rubidium	mg/L	0.00020	0.00179	0.00245	0.00274	0.00187	0.00151	0.00222
Selenium	mg/L	0.000050	0.000082	0.000065	0.000090	< 0.000100 DLA	< 0.000050	0.000060
Silver	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000020 DLA	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	0.813	1.57	1.07	5.40	1.59	1.42
Sulphur (as S)	mg/L	0.50	66.3	87.0	195	25.7	23.1	30.1
Thallium	mg/L	0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000020 DLA	< 0.000010	< 0.000010
Tin	mg/L	0.00010	< 0.00010	< 0.00010	0.00013	< 0.00020 DLA	< 0.00010	< 0.00010
Titanium	mg/L	0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00060 DLA	< 0.00030	< 0.00030
Uranium	mg/L	0.000010	0.000062	0.00274	0.00328	0.00180	0.000136	0.00438
Vanadium	mg/L	0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00100 DLA	< 0.00050	< 0.00050
Zinc	mg/L	0.0010	0.0034	0.0087	0.0235	0.0038	0.0068	0.0053
Zirconium	mg/L	0.00020	< 0.00020	0.00065	0.00023	0.00051	< 0.00020	0.00027

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.

Shaded Grey & Bold = Exceeded Field Data Quality Objective

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

Table K: Summary of Analytical Results for Deep Multiport Groundwater Monitoring Stations - September 2024

		Station	S-DIAND-023		S-1954		S-1956		S-1955	
		Sample Date	2024-09-26	2024-09-26	2024-09-24	2024-09-24	2024-09-25	2024-09-25	2024-09-27	2024-09-27
		Sample Type	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay
		Unique Sample Identifier	SDIAND023Z2-240926	SDIAND023Z10-240926	S1954Z2-240924	S1954Z5-240924	S1956Z4-240925	S1956Z10-240925	S1955Z2-240927	S1955Z6-240927
		Laboratory Sample ID	YL2401628-001	YL2401628-002	YL2401598-005	YL2401598-006	YL2401629-002	YL2401629-001	YL2401638-001	YL2401638-002
		Zone ID	2	10	2	5	4	10	2	6
Parameter Name	**Unit**	**LOR**								
Field Parameters										
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	6.10	7.00	5.10	5.60	5.90	6.80	4.90	5.50
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	8.96	7.40	7.37	7.44	7.63	8.03	8.54	7.67
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	49.70	44.10	33.80	29.30	37.00	25.40	29.60	40.00
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	5.93	5.13	4.16	3.56	4.44	2.97	3.66	4.87
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	831.0	1423.0	910.0	866.0	518.0	714.0	618.0	885.0
ORP	mV	Range ± 1400 mV Resolution 0.1 mV Accuracy of ±2% of reading	127.3	247.1	-88.4	-186.6	125.2	-97.4	45.7	-21.6
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	0.49	0.08	1.52	0.89	0.12	0.02	0.51	0.41
Data Quality Objective		**Limit**								
pH	pH Units	1 pH Unit	0.38	0.85	0.35	0.54	0.38	0.03	0.27	0.51
Specific Conductivity	µS/cm	20% RPD	11.85%	8.27%	13.24%	11.61%	7.62%	7.11%	**25.14%**	**26.20%**
Conventional (Routine) Parameters										
pH	pH Units	0.10	8.58	8.25	7.72	7.98	8.01	8.06	8.27	8.18
Specific Conductivity	µS/cm	1.0	738	1310	797	771	480	665	480	680

		Station	S-DIAND-023		S-1954		S-1956		S-1955	
		Sample Date	2024-09-26	2024-09-26	2024-09-24	2024-09-24	2024-09-25	2024-09-25	2024-09-27	2024-09-27
		Sample Type	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay
		Unique Sample Identifier	SDIAND023Z2-240926	SDIAND023Z10-240926	S1954Z2-240924	S1954Z5-240924	S1956Z4-240925	S1956Z10-240925	S1955Z2-240927	S1955Z6-240927
		Laboratory Sample ID	YL2401628-001	YL2401628-002	YL2401598-005	YL2401598-006	YL2401629-002	YL2401629-001	YL2401638-001	YL2401638-002
		Zone ID	2	10	2	5	4	10	2	6
Parameter Name	**Unit**	**LOR**								
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	56.7	724	266	396	163	109	60.5	266
Total Alkalinity, as $CaCO_3$	mg/L	1.0	221	200	422	279	220	282	146	384
Total Dissolved Solids	mg/L	3.0	552	1170	476	520	329	461	346	497
Total Suspended Solids	mg/L	1.0	< 1.0	1.4	22.2	< 1.0	< 1.0	< 1.0	1	< 1.0
Turbidity [(a)]	NTU	0.10	2.83	0.29	126	40	0.26	0.31	0.13	0.85
Major Ions										
Bicarbonate, as $CaCO_3$	mg/L	1.0	207	200	422	279	220	282	146	384
Calcium	mg/L	0.050	15.2	200	68.5	127	46.9	32.0	10.2	53.0
Carbonate, as $CaCO_3$	mg/L	1.0	13.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloride	mg/L	0.50	10.8	17.2	4.64	< 2.50 DLDS	1.27	0.78	17.0	< 2.50 DLDS
Fluoride	mg/L	0.020	0.227	< 0.100 DLDS	0.214	< 0.100 DLDS	0.139	0.172	0.428	0.118
Magnesium	mg/L	0.0050	4.56	54.5	23.0	19.1	11.2	7.04	8.51	32.4
Potassium	mg/L	0.050	0.994	1.28	2.23	1.50	2.46	2.75	1.18	4.00
Sodium	mg/L	0.050	149	17.4	78.0	4.07	39.8	110	93.5	74.5
Sulphate	mg/L	0.30	132	528	< 1.50 DLDS	123	35.3	68.6	91.6	45.3
Reactive silica	mg/L	0.50	8.42	8.40	12.2	8.43	10.4	12.4	6.17	13.4
Nutrients										
Nitrate, as N	mg/L	0.0050	1.98	3.60	4.69	3.48	1.18	1.65	2.28	2.46
Nitrite, as N	mg/L	0.0010	0.0602	< 0.0050 DLDS	< 0.0050 DLDS	< 0.0050 DLDS	< 0.0010	< 0.0010	< 0.0010	< 0.0050 DLDS
Total Ammonia, as N	mg/L	0.0050	0.235	< 0.0050	0.180	0.0113	0.339	0.440	0.303	0.942
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 0.050	< 0.050	< 0.250 DLA	< 0.050	< 0.050	< 0.050	< 0.050	0.536
Total Phosphorus (Colourimetric), as P	mg/L	0.0020	-	-	-	-	-	-	-	-
Organic Carbon										
Total organic carbon	mg/L	0.50	8.08	5.53	8.51	6.02	11.0	9.29	1.74	5.22
Dissolved organic carbon	mg/L	0.50	7.95	5.37	7.37	4.80	11.9	10.3	1.83	5.38
Total Metals										
Aluminum	mg/L	0.0030	0.0317	0.0048	< 0.0150 DLA	0.0063	0.0135	0.0125	0.0043	0.0080
Antimony	mg/L	0.00010	0.0198	0.00416	< 0.00050 DLA	0.00139	0.00071	0.00081	0.00040	0.00056
Arsenic	mg/L	0.00010	0.0286	0.00264	0.0391	0.109	0.0118	0.0184	0.00283	0.199
Barium	mg/L	0.00010	0.0141	0.0257	23.7	0.374	0.0535	0.141	0.0238	0.252
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000250 DLA	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Boron	mg/L	0.010	0.820	0.042	1.04	0.040	0.423	0.593	1.02	0.336
Cadmium	mg/L	0.0000050	< 0.0000050	0.000188	< 0.0000250 DLA	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Cesium	mg/L	0.000010	0.000206	0.000021	0.000134	< 0.000010	0.000477	0.000191	0.000065	0.000104
Chromium (III+VI)	mg/L	0.00010	0.00091	0.00029	0.00076	0.00048	0.00089	0.00346	0.00050	0.00562
Cobalt	mg/L	0.00010	0.0112	0.00711	< 0.00050 DLA	0.00042	< 0.00010	< 0.00010	0.00020	0.00014
Copper	mg/L	0.00050	0.00297	0.00944	< 0.00250 DLA	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050

		Station	S-DIAND-023		S-1954		S-1956		S-1955	
		Sample Date	2024-09-26	2024-09-26	2024-09-24	2024-09-24	2024-09-25	2024-09-25	2024-09-27	2024-09-27
		Sample Type	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay
		Unique Sample Identifier	SDIAND023Z2-240926	SDIAND023Z10-240926	S1954Z2-240924	S1954Z5-240924	S1956Z4-240925	S1956Z10-240925	S1955Z2-240927	S1955Z6-240927
		Laboratory Sample ID	YL2401628-001	YL2401628-002	YL2401598-005	YL2401598-006	YL2401629-002	YL2401629-001	YL2401638-001	YL2401638-002
		Zone ID	2	10	2	5	4	10	2	6
Parameter Name	**Unit**	**LOR**								
Iron	mg/L	0.010	0.030	0.015	10.4	0.112	0.119	0.086	0.030	0.103
Lead	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000250 DLA	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	0.0115	0.0053	0.0233	0.0042	0.0111	0.0199	0.0271	0.0296
Manganese	mg/L	0.00010	0.00825	0.00225	0.566	0.270	0.0783	0.183	0.00502	0.146
Mercury	mg/L	0.0000050	< 0.0000050	0.0000056	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.00340	0.000684	0.000402	0.000306	0.00107	0.000257	0.00186	0.000871
Nickel	mg/L	0.00050	0.00256	0.0170	< 0.00250 DLA	0.00106	0.00076	0.00097	< 0.00050	0.00394
Rubidium	mg/L	0.00020	0.00122	0.00086	0.00204	0.00072	0.00181	0.00166	0.00103	0.00210
Selenium	mg/L	0.000050	0.000158	0.00119	< 0.000250 DLA	< 0.000050	0.000061	0.000103	< 0.000050	0.000058
Silver	mg/L	0.000010	0.000018	< 0.000010	< 0.000050 DLA	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	0.127	0.408	1.89	0.308	0.427	0.281	0.357	0.906
Sulphur (as S)	mg/L	0.50	48.9	199	< 2.50 DLA	48.8	12.8	24.9	33.2	18.4
Thallium	mg/L	0.000010	< 0.000010	0.000013	< 0.000050 DLA	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Tin	mg/L	0.00010	0.00043	< 0.00010	< 0.00050 DLA	< 0.00010	0.00025	0.00090	< 0.00010	0.00014
Titanium	mg/L	0.00030	< 0.00030	< 0.00030	< 0.00150 DLA	< 0.00030	0.00114	0.00071	< 0.00030	0.00031
Uranium	mg/L	0.000010	0.000240	0.00165	< 0.000050 DLA	0.00391	0.000303	0.000330	0.000020	0.00253
Vanadium	mg/L	0.00050	0.00362	< 0.00050	< 0.00250 DLA	< 0.00050	0.00216	0.00225	< 0.00050	0.00127
Zinc	mg/L	0.0030	0.0193	0.0192	0.0174	< 0.0030	0.0073	0.0103	0.0044	0.0677
Zirconium	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00100 DLA	0.00038	0.00226	0.00090	< 0.00020	0.00026
Dissolved Metals										
Aluminum	mg/L	0.0010	0.0290	0.0039	0.0051	0.0067	0.0167	0.0111	0.0030	0.0047
Antimony	mg/L	0.00010	0.0195	0.00407	< 0.00050 DLA	0.00108	0.00092	0.00103	0.00038	0.00041
Arsenic	mg/L	0.00010	0.0282	0.00500 DTC	0.0408	0.107	0.0128	0.0185	0.00585 DTC	0.152
Barium	mg/L	0.00010	0.0139	0.0262	21.7	0.355	0.0566	0.129	0.0247	0.259
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000250 DLA	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Boron	mg/L	0.010	0.817	0.044	0.934	0.041	0.421	0.610	0.909	0.310
Cadmium	mg/L	0.0000050	< 0.0000050	0.000192	< 0.0000250 DLA	< 0.0000050	< 0.0000050	< 0.0000050	0.0000087	< 0.0000050
Cesium	mg/L	0.000010	0.000203	0.000021	0.000136	< 0.000010	0.000449	0.000188	0.000062	0.000089
Chromium (III+VI)	mg/L	0.00010	0.00037	0.00078 DTMF	0.00076	0.00081 DTC	0.00118	0.00337	0.00094 DTC	0.00174
Cobalt	mg/L	0.00010	0.0107	0.00663	< 0.00050 DLA	0.00035	< 0.00010	< 0.00010	0.00019	< 0.00010
Copper	mg/L	0.00020	0.00291	0.00864	< 0.00100 DLA	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Iron	mg/L	0.010	0.020	0.021	10.5	0.106	0.138	0.080	0.036	0.073
Lead	mg/L	0.000050	< 0.000050	< 0.000050	< 0.000250 DLA	< 0.000050	< 0.000050	< 0.000050	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	0.0110	0.0052	0.0231	0.0042	0.0107	0.0193	0.0263	0.0297
Manganese	mg/L	0.00010	0.00820	0.00297	0.561	0.249	0.0777	0.178	0.00483	0.139
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.00320	0.000842	0.000422	0.000316	0.00108	0.000209	0.00190	0.000334

		Station	S-DIAND-023		S-1954		S-1956		S-1955	
		Sample Date	2024-09-26	2024-09-26	2024-09-24	2024-09-24	2024-09-25	2024-09-25	2024-09-27	2024-09-27
		Sample Type	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay	Westbay
		Unique Sample Identifier	SDIAND023Z2-240926	SDIAND023Z10-240926	S1954Z2-240924	S1954Z5-240924	S1956Z4-240925	S1956Z10-240925	S1955Z2-240927	S1955Z6-240927
		Laboratory Sample ID	YL2401628-001	YL2401628-002	YL2401598-005	YL2401598-006	YL2401629-002	YL2401629-001	YL2401638-001	YL2401638-002
		Zone ID	2	10	2	5	4	10	2	6
Parameter Name	**Unit**	**LOR**								
Nickel	mg/L	0.00050	0.00199	0.0178	< 0.00250 DLA	0.00153	0.00083	0.00111	0.00083	0.00109
Rubidium	mg/L	0.00020	0.00119	0.00081	0.00151	0.00061	0.00169	0.00167	0.00103	0.00215
Selenium	mg/L	0.000050	0.000153	0.00133	< 0.000250 DLA	0.000174 DTC, DTSE	0.000056	0.000105	< 0.000050	0.000086
Silver	mg/L	0.000010	0.000022	< 0.000010	< 0.000050 DLA	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	0.123	0.397	1.95	0.294	0.418	0.271	0.337	0.860
Sulphur (as S)	mg/L	0.50	46.1	195	< 2.50 DLA	58.7	11.7	23.3	32.3	17.5
Thallium	mg/L	0.000010	< 0.000010	0.000014	< 0.000050 DLA	< 0.000010	< 0.000010	< 0.000010	< 0.000010	< 0.000010
Tin	mg/L	0.00010	0.00040	< 0.00010	< 0.00050 DLA	< 0.00010	0.00024	0.00080	< 0.00010	0.00011
Titanium	mg/L	0.00030	< 0.00030	< 0.00030	< 0.00150 DLA	< 0.00030	0.00094	0.00059	< 0.00030	< 0.00030
Uranium	mg/L	0.000010	0.000228	0.00148	< 0.000050 DLA	0.00374	0.000292	0.000333	0.000019	0.00236
Vanadium	mg/L	0.00050	0.00344	< 0.00050	< 0.00250 DLA	< 0.00050	0.00214	0.00222	< 0.00050	0.00116
Zinc	mg/L	0.0010	0.0048	0.0335 DTC	0.0190	0.0105	0.0094	0.0081	0.0090 DTC	0.0131
Zirconium	mg/L	0.00020	< 0.00020	< 0.00020	< 0.00100 DLA	0.00040	0.00219	0.00087	< 0.00020	0.00025

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.

Shaded Grey & Bold = Exceeded Field Data Quality Objective

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

Table K: Summary of Analytical Results for Deep Multiport Groundwater Monitoring Stations - September 2024

		Station	**S-2224**	
		Sample Date	**2024-09-27**	**2024-09-27**
		Sample Type	**Westbay**	**Westbay**
		Unique Sample Identifier	**S2224Z3-240927**	**S2224Z9-240927**
		Laboratory Sample ID	**YL2401638-003**	**YL2401638-004**
		Zone ID	**3**	**9**
Parameter Name	**Unit**	**LOR**		
Field Parameters				
Temperature	°C	Range: -5 to 50 °C Resolution 0.01 °C Accuracy of ± 1 °C	4.10	5.30
pH	pH Units	Range: 0 to 14 pH units Resolution of 0.01 pH units Accuracy of 0.1 pH units	7.97	7.74
Dissolved Oxygen	%	Range 20 to 60 mg/L Resolution 0.01 mg/L Accuracy of ± 2% reading	49.60	27.90
Dissolved Oxygen	mg/L	Range 0 to 20 mg/L Resolution 0.01 mg/L Accuracy of ± 0.1 mg/L	6.28	3.43
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	935.0	817.0
ORP	mV	Range ± 1400 mV Resolution 0.1 mV Accuracy of ±2% of reading	-26.6	-22.0
Turbidity [(a)]	NTU	Range 0 to 4,000 NTU Resolution 0.01 NTU Accuracy of ± 5 mV	0.81	0.27
Data Quality Objective		**Limit**		
pH	pH Units	1 pH Unit	0.29	0.45
Specific Conductivity	µS/cm	20% RPD	**25.44%**	**24.76%**
Conventional (Routine) Parameters				
pH	pH Units	0.10	8.26	8.19
Specific Conductivity	µS/cm	1.0	724	637

		Station	S-2224	
		Sample Date	2024-09-27	2024-09-27
		Sample Type	Westbay	Westbay
		Unique Sample Identifier	S2224Z3-240927	S2224Z9-240927
		Laboratory Sample ID	YL2401638-003	YL2401638-004
		Zone ID	3	9
Parameter Name	**Unit**	**LOR**		
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	225	344
Total Alkalinity, as $CaCO_3$	mg/L	1.0	292	305
Total Dissolved Solids	mg/L	3.0	533	470
Total Suspended Solids	mg/L	1.0	< 1.0	< 1.0
Turbidity [(a)]	NTU	0.10	0.31	2.15
Major Ions				
Bicarbonate, as $CaCO_3$	mg/L	1.0	292	305
Calcium	mg/L	0.050	47.8	76.7
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0
Chloride	mg/L	0.50	16.0	< 2.50 DLDS
Fluoride	mg/L	0.020	0.181	< 0.100 DLDS
Magnesium	mg/L	0.0050	25.6	37.1
Potassium	mg/L	0.050	2.26	3.29
Sodium	mg/L	0.050	103	25.7
Sulphate	mg/L	0.30	119	89.3
Reactive silica	mg/L	0.50	11.6	14.4
Nutrients				
Nitrate, as N	mg/L	0.0050	2.02	3.03
Nitrite, as N	mg/L	0.0010	< 0.0050 DLDS	< 0.0050 DLDS
Total Ammonia, as N	mg/L	0.0050	0.274	0.342
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 0.050	< 0.050
Total Phosphorus (Colourimetric), as P	mg/L	0.0020	-	-
Organic Carbon				
Total organic carbon	mg/L	0.50	7.97	4.11
Dissolved organic carbon	mg/L	0.50	8.02	4.21
Total Metals				
Aluminum	mg/L	0.0030	0.0085	0.0040
Antimony	mg/L	0.00010	0.00030	0.00011
Arsenic	mg/L	0.00010	0.0791	0.00625
Barium	mg/L	0.00010	0.122	0.0657
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050
Boron	mg/L	0.010	0.494	0.220
Cadmium	mg/L	0.0000050	< 0.0000050	< 0.0000050
Cesium	mg/L	0.000010	0.000153	0.000094
Chromium (III+VI)	mg/L	0.00010	0.00310	0.00103
Cobalt	mg/L	0.00010	0.0110	< 0.00010
Copper	mg/L	0.00050	< 0.00050	< 0.00050

		Station	S-2224	
		Sample Date	2024-09-27	2024-09-27
		Sample Type	Westbay	Westbay
		Unique Sample Identifier	S2224Z3-240927	S2224Z9-240927
		Laboratory Sample ID	YL2401638-003	YL2401638-004
		Zone ID	3	9
Parameter Name	**Unit**	**LOR**		
Iron	mg/L	0.010	0.070	0.382
Lead	mg/L	0.000050	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	0.0222	0.0152
Manganese	mg/L	0.00010	0.0302	0.102
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.000516	0.00134
Nickel	mg/L	0.00050	0.00110	0.00067
Rubidium	mg/L	0.00020	0.00228	0.00188
Selenium	mg/L	0.000050	0.000094	< 0.000050
Silver	mg/L	0.000010	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	1.10	1.29
Sulphur (as S)	mg/L	0.50	45.6	33.3
Thallium	mg/L	0.000010	< 0.000010	< 0.000010
Tin	mg/L	0.00010	< 0.00010	< 0.00010
Titanium	mg/L	0.00030	0.00046	< 0.00030
Uranium	mg/L	0.000010	0.00233	0.00347
Vanadium	mg/L	0.00050	0.00111	< 0.00050
Zinc	mg/L	0.0030	0.0129	0.0056
Zirconium	mg/L	0.00020	0.00028	< 0.00020
Dissolved Metals				
Aluminum	mg/L	0.0010	0.0048	0.0035
Antimony	mg/L	0.00010	0.00028	0.00010
Arsenic	mg/L	0.00010	0.0778	0.00843
Barium	mg/L	0.00010	0.134	0.0720
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050
Boron	mg/L	0.010	0.468	0.194
Cadmium	mg/L	0.0000050	< 0.0000050	< 0.0000050
Cesium	mg/L	0.000010	0.000149	0.000085
Chromium (III+VI)	mg/L	0.00010	0.00197	0.00153 DTC
Cobalt	mg/L	0.00010	0.0106	0.00013
Copper	mg/L	0.00020	< 0.00020	< 0.00020
Iron	mg/L	0.010	0.047	0.390
Lead	mg/L	0.000050	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	0.0207	0.0148
Manganese	mg/L	0.00010	0.0321	0.104
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	0.000345	0.00120

		Station	S-2224	
		Sample Date	2024-09-27	2024-09-27
		Sample Type	Westbay	Westbay
		Unique Sample Identifier	S2224Z3-240927	S2224Z9-240927
		Laboratory Sample ID	YL2401638-003	YL2401638-004
		Zone ID	3	9
Parameter Name	**Unit**	**LOR**		
Nickel	mg/L	0.00050	< 0.00050	0.00156
Rubidium	mg/L	0.00020	0.00242	0.00198
Selenium	mg/L	0.000050	0.000113	< 0.000050
Silver	mg/L	0.000010	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	1.08	1.23
Sulphur (as S)	mg/L	0.50	42.7	30.4
Thallium	mg/L	0.000010	< 0.000010	< 0.000010
Tin	mg/L	0.00010	< 0.00010	< 0.00010
Titanium	mg/L	0.00030	0.00031	< 0.00030
Uranium	mg/L	0.000010	0.00248	0.00326
Vanadium	mg/L	0.00050	0.00092	< 0.00050
Zinc	mg/L	0.0010	0.0049	0.0092
Zirconium	mg/L	0.00020	0.00028	< 0.00020

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.

Shaded Grey & Bold = Exceeded Field Data Quality Objective

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

Table L: Quality Assurance and Quality Control Results - Blanks - September 2024

		Sample Station	SNP 43-1	Blanks	Blanks	Blanks	Blanks	Blanks
		Sample Date	2024-09-03	2024-09-03	2024-09-10	2024-09-10	2024-Sep-18	2024-Sep-25
		Sample Type	FB	TB	FB	TB	TB	TB
		Unique Sample Identifier	FB-SNP431-240903	TB-240903	FB-SNP431-G-240910	TB-240910	TB-240918	TB-240925
		Laboratory Sample ID	YL2401381-001 YL2401382-002	YL2401381-006 YL2401382-006	YL2401444-006	YL2401444-009 YL2401445-002	YL2401537-006 YL2401535-002	YL2401629-003
Parameter	**Unit**	**LOR**						
Conventional (Routine) Parameters								
pH	pH Units	0.10	5.24	5.25	-	5.50	5.38	5.09
Specific Conductivity	µS/cm	1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	< 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	< 1.0
Total Dissolved Solids	mg/L	3.0	< 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	< 1.0
Turbidity	NTU	0.10	< 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	< 1.0
Calcium	mg/L	0.050	< 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	< 1.0
Chloride	mg/L	0.50	< 0.50	< 0.50	-	< 0.50	< 0.50	< 0.50
Fluoride	mg/L	0.020	< 0.020	< 0.020	-	< 0.020	< 0.020	< 0.020
Magnesium	mg/L	0.0050	< 0.0050	< 0.0050	-	< 0.0050	< 0.0050	< 0.0050
Potassium	mg/L	0.050	< 0.050	< 0.050	-	< 0.050	< 0.050	< 0.050
Sodium	mg/L	0.050	< 0.050	< 0.050	-	< 0.050	< 0.050	< 0.050
Sulphate	mg/L	0.30	< 0.30	< 0.30	-	< 0.30	< 0.30	< 0.30
Reactive silica	mg/L	0.50	< 0.50	< 0.50	-	< 0.50	< 0.50	< 0.50
Nutrients								
Nitrate, as N	mg/L	0.0050	< 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	< 0.0010
Total Ammonia, as N	mg/L	0.0050	< 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
Total Phosphorus (Colourimetric), as P	mg/L	0.0020	-	< 0.0020	-	< 0.0020	-	-
Organic Carbon								
Total organic carbon	mg/L	0.50	< 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	< 0.50
Total Metals								
Aluminum	mg/L	0.0030	0.0046	< 0.0030	-	< 0.0030	< 0.0030	< 0.0030
Antimony	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Arsenic	mg/L	0.00010	0.00029	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Barium	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	-	< 0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050	< 0.000050

		Sample Station	SNP 43-1	Blanks	Blanks	Blanks	Blanks	Blanks
		Sample Date	2024-09-03	2024-09-03	2024-09-10	2024-09-10	2024-Sep-18	2024-Sep-25
		Sample Type	FB	TB	FB	TB	TB	TB
		Unique Sample Identifier	FB-SNP431-240903	TB-240903	FB-SNP431-G-240910	TB-240910	TB-240918	TB-240925
		Laboratory Sample ID	YL2401381-001 YL2401382-002	YL2401381-006 YL2401382-006	YL2401444-006	YL2401444-009 YL2401445-002	YL2401537-006 YL2401535-002	YL2401629-003
Boron	mg/L	0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010
Cadmium	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050
Cesium	mg/L	0.000010	< 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	< 0.00010
Cobalt	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Copper	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050	< 0.00050
Iron	mg/L	0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010
Lead	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010	< 0.0010
Manganese	mg/L	0.00010	0.00012	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050	< 0.000050
Nickel	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050	< 0.00050
Rubidium	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020	< 0.00020
Selenium	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050	< 0.000050
Silver	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	< 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	< 0.50
Thallium	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010	< 0.000010
Tin	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Titanium	mg/L	0.00030	< 0.00030	< 0.00030	-	< 0.00030	< 0.00030	< 0.00030
Uranium	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010	< 0.000010
Vanadium	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050	< 0.00050
Zinc	mg/L	0.0030	< 0.0030	< 0.0030	-	< 0.0030	< 0.0030	< 0.0030
Zirconium	mg/L	0.00020	< 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	< 0.0010
Antimony	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Arsenic	mg/L	0.00010	0.00011	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Barium	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	-	< 0.000100	< 0.000100	< 0.000100
Bismuth	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050	< 0.000050
Boron	mg/L	0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010
Cadmium	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050
Cesium	mg/L	0.000010	< 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	< 0.00010
Cobalt	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Copper	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020	< 0.00020
Iron	mg/L	0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010
Lead	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050	< 0.000050
Lithium	mg/L	0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010	< 0.0010
Manganese	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010

		Sample Station	SNP 43-1	Blanks	Blanks	Blanks	Blanks	Blanks
		Sample Date	2024-09-03	2024-09-03	2024-09-10	2024-09-10	2024-Sep-18	2024-Sep-25
		Sample Type	FB	TB	FB	TB	TB	TB
		Unique Sample Identifier	FB-SNP431-240903	TB-240903	FB-SNP431-G-240910	TB-240910	TB-240918	TB-240925
		Laboratory Sample ID	YL2401381-001 YL2401382-002	YL2401381-006 YL2401382-006	YL2401444-006	YL2401444-009 YL2401445-002	YL2401537-006 YL2401535-002	YL2401629-003
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	-	< 0.0000050	< 0.0000050	< 0.0000050
Molybdenum	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050	< 0.000050
Nickel	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050	< 0.00050
Rubidium	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020	< 0.00020
Selenium	mg/L	0.000050	< 0.000050	< 0.000050	-	< 0.000050	< 0.000050	< 0.000050
Silver	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010	< 0.000010
Strontium	mg/L	0.00020	< 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	< 0.50
Thallium	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010	< 0.000010
Tin	mg/L	0.00010	< 0.00010	< 0.00010	-	< 0.00010	< 0.00010	< 0.00010
Titanium	mg/L	0.00030	< 0.00030	< 0.00030	-	< 0.00030	< 0.00030	< 0.00030
Uranium	mg/L	0.000010	< 0.000010	< 0.000010	-	< 0.000010	< 0.000010	< 0.000010
Vanadium	mg/L	0.00050	< 0.00050	< 0.00050	-	< 0.00050	< 0.00050	< 0.00050
Zinc	mg/L	0.0010	< 0.0010	< 0.0010	-	< 0.0010	< 0.0010	< 0.0010
Zirconium	mg/L	0.00020	< 0.00020	< 0.00020	-	< 0.00020	< 0.00020	< 0.00020
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	0.005	< 0.0050	< 0.0050	-	< 0.0050 SRU	< 0.0050 CAP	-
Sulphide	mg/L	0.0015	< 0.0015	< 0.0015	-	-	-	-
Radium-226	Bq/L	0.005	<0.05	<0.05	-	< 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

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 L: Quality Assurance and Quality Control Results - Blanks - September 2024

		Sample Station	Blanks	Blanks	Blanks	Blanks
		Sample Date	2024-09-19	2024-09-24	2024-09-24	2024-09-25
		Sample Type	EB	FB	EB	TB
		Unique Sample Identifier	EB-240919	FB-SDIAND021-240924	EB-SDIAND021-240924	TB-240925
		Laboratory Sample ID	YL2401552-004	YL2401598-001	YL2401598-002	YL2401629-003
Parameter	**Unit**	**LOR**				
Conventional (Routine) Parameters						
pH	pH Units	0.10	5.25	5.62	5.56	5.09
Specific Conductivity	µS/cm	1.0	< 1.0	1.1	1.2	< 1.0
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	< 0.50
Nutrients						
Nitrate, as N	mg/L	0.0050	< 0.0050	< 0.0050	0.0071 HTDC, RRV	< 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
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	-	-	-	-
Organic Carbon						
Total organic carbon	mg/L	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dissolved organic carbon	mg/L	0.50	0.59 RRV	< 0.50	< 0.50	< 0.50
Total Metals						
Aluminum	mg/L	0.0030	0.0039 RRV	< 0.0030	< 0.0030	< 0.0030
Antimony	mg/L	0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Arsenic	mg/L	0.00010	0.00013 RRV	< 0.00010	0.00048	< 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

		Sample Station	Blanks	Blanks	Blanks	Blanks
		Sample Date	2024-09-19	2024-09-24	2024-09-24	2024-09-25
		Sample Type	EB	FB	EB	TB
		Unique Sample Identifier	EB-240919	FB-SDIAND021-240924	EB-SDIAND021-240924	TB-240925
		Laboratory Sample ID	YL2401552-004	YL2401598-001	YL2401598-002	YL2401629-003
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	0.00014 RRV	< 0.00010	**0.00054**	< 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	0.00066 RRV	< 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
Manganese	mg/L	0.00010	0.00012 RRV	< 0.00010	< 0.00010	< 0.00010

		Sample Station	Blanks	Blanks	Blanks	Blanks
		Sample Date	2024-09-19	2024-09-24	2024-09-24	2024-09-25
		Sample Type	EB	FB	EB	TB
		Unique Sample Identifier	EB-240919	FB-SDIAND021-240924	EB-SDIAND021-240924	TB-240925
		Laboratory Sample ID	YL2401552-004	YL2401598-001	YL2401598-002	YL2401629-003
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	-	-	-	-
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	0.005	-	-	-	-
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

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 M: Quality Assurance and Quality Control Results - Duplicates - September 2024

		Station	SNP 43-23			SNP 43-32			MW21-04		
		Sample Date	2024-09-28	2024-09-28	RPD (%)	2024-09-05	2024-09-05	RPD (%)	2024-09-26	2024-09-26	RPD (%)
		Sample Type	N	FD		N	FD		N	FD	
		Unique Sample Identifier	SNP4323-240928	DUP-SNP4323-240928		SNP4332-240905	DUP-SNP4332-240905		GM-2024-5007-01	GM-2024-5007-02	
		Laboratory Sample ID	YL2401641-002	YL2401641-003		YL2401405-006	YL2401405-007		YL2401626-001	YL2401626-002	
Parameter Name	**Unit**	**LOR**									
Conventional (Routine) Parameters											
pH	pH Units	0.10	7.67	7.69	0	8.11	8.12	0	8.56	8.5	1
Specific Conductivity	µS/cm	1.0	3340	3330	0	4170	4110	1	490	484	1
Hardness, as $CaCO_3$ (dissolved)	mg/L	0.60	1520	1510	1	1910	1970	3	215	209	3
Total Alkalinity, as $CaCO_3$	mg/L	1.0	55.3	55	1	96.4	96.6	0	221	217	2
Total Dissolved Solids	mg/L	3.0	3070	3010	2	3940	4100	4	350	339	3
Total Suspended Solids	mg/L	1.0	9	8.4	7	5.5	2.4	**78**	2.5	2.7	NC
Turbidity	NTU	0.10	9.28	9.19	1	1.36	1.33	2	2.94	3.64	**21**
Major Ions											
Bicarbonate, as $CaCO_3$	mg/L	1.0	55.3	55	1	96.4	96.6	0	201	201	0
Calcium	mg/L	0.050	422	416	1	539 DLA	557 DLA	3	60.1	57.5	4
Carbonate, as $CaCO_3$	mg/L	1.0	< 1.0	< 1.0	NC	< 1.0	< 1.0	NC	20.4	16.2	**23**
Chloride	mg/L	0.50	486	487	0	535	536	0	3.61	3.58	1
Fluoride	mg/L	0.020	< 0.400 DLDS	< 0.400 DLDS	NC	< 0.400 DLDS	< 0.400 DLDS	NC	0.191	0.188	2
Magnesium	mg/L	0.0050	113	114	1	137 DLA	141 DLA	3	15.8	16	1
Potassium	mg/L	0.050	13.2	12.6	5	19.7 DLA	20.7 DLA	5	8.98	9.13	2
Sodium	mg/L	0.050	203	205	1	208 DLA	214 DLA	3	7.22	7.05	2
Sulphate	mg/L	0.30	1120	1130	1	1610	1620	1	43.2	42.2	2
Reactive silica	mg/L	0.50	0.85	0.82	NC	5.73	5.72	0	33	33.2	1
Nutrients											
Nitrate, as N	mg/L	0.0050	< 0.100 DLDS	< 0.100 DLDS	NC	< 0.100 DLDS	< 0.100 DLDS	NC	< 0.0050	< 0.0050	NC
Nitrite, as N	mg/L	0.0010	< 0.0200 DLDS	< 0.0200 DLDS	NC	< 0.0200 DLDS	< 0.0200 DLDS	NC	0.0014	0.0013	NC
Total Ammonia, as N	mg/L	0.0050	0.0347	0.0339	2	0.0145	0.0154	NC	0.108	0.109	1
Total Phosphorus (ICPMS), as P	mg/L	0.050	< 0.100 DLA	< 0.100 DLA	NC	< 0.100 DLA	< 0.100 DLA	NC	0.102	0.08	NC
Total Phosphorus (Colourimetric), as P	mg/L	0.050	0.035	0.0312	11	-	-	-	-	-	-
Organic Carbon											
Total organic carbon	mg/L	0.50	6.95 RRV	6.71 RRV	4	12.4	11.9	4	10.2	10.4	2
Dissolved organic carbon	mg/L	0.002	8.86 RRV	8.65 RRV	4	11.7	13.6	15	11.5	10.4	10
Total Metals											
Aluminum	mg/L	0.0030	0.262	0.291	10	0.0143	< 0.0060 DLA	NC	0.0293	0.032	9
Antimony	mg/L	0.00010	0.146	0.149	2	0.518	0.518	0	0.00515	0.00528	2
Arsenic	mg/L	0.00010	0.207	0.193	7	2.45	2.48	1	0.00948	0.00905	5
Barium	mg/L	0.00010	0.0647	0.0629	3	0.0394	0.0398	1	0.0441	0.0457	4
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	NC	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.0001	< 0.000100	NC
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.00005	< 0.000050	NC
Boron	mg/L	0.010	0.31	0.326	5	0.337	0.335	1	0.026	0.026	NC
Cadmium	mg/L	0.0000050	0.0000522	0.0000412	**24**	0.000184	0.000185	1	0.0000112	0.0000089	NC
Cesium	mg/L	0.000010	0.000122	0.000113	8	0.000092	0.000097	NC	0.000012	0.000012	NC
Chromium (III+VI)	mg/L	0.00010	0.00048	0.00048	NC	< 0.00020 DLA	< 0.00020 DLA	NC	0.00065	0.00065	0
Cobalt	mg/L	0.00010	0.00535	0.0051	5	0.00746	0.00747	0	0.00112	0.00121	8
Copper	mg/L	0.00050	0.00894	0.00738	19	0.0184	0.0187	2	0.0016	0.00147	NC
Iron	mg/L	0.010	0.817	0.681	18	0.068	0.064	NC	0.63	0.937	**39**

		Station	SNP 43-23			SNP 43-32			MW21-04		
		Sample Date	2024-09-28	2024-09-28	RPD (%)	2024-09-05	2024-09-05	RPD (%)	2024-09-26	2024-09-26	RPD (%)
		Sample Type	N	FD		N	FD		N	FD	
		Unique Sample Identifier	SNP4323-240928	DUP-SNP4323-240928		SNP4332-240905	DUP-SNP4332-240905		GM-2024-5007-01	GM-2024-5007-02	
		Laboratory Sample ID	YL2401641-002	YL2401641-003		YL2401405-006	YL2401405-007		YL2401626-001	YL2401626-002	
Lead	mg/L	0.000050	0.00388	0.00287	**30**	0.000116	0.00011	NC	< 0.00005	< 0.000050	NC
Lithium	mg/L	0.0010	0.0322	0.0326	1	0.0184	0.0184	0	0.0145	0.014	4
Manganese	mg/L	0.00010	0.426	0.4	6	0.0852	0.0858	1	0.25	0.31	**21**
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	NC	< 0.0000050	< 0.0000050	NC	< 0.0000050	< 0.0000050	NC
Molybdenum	mg/L	0.000050	0.0106	0.0105	1	0.0218	0.0221	1	0.00104	0.00101	3
Nickel	mg/L	0.00050	0.0108	0.011	2	0.031	0.0306	1	0.00372	0.00376	1
Rubidium	mg/L	0.00020	0.0111	0.0111	0	0.0081	0.00815	1	0.00528	0.00524	1
Selenium	mg/L	0.000050	0.000306	0.000329	NC	0.000906	0.000728	**22**	0.000475	0.000501	5
Silver	mg/L	0.000010	0.000037	0.00004	NC	0.000105	0.000093	NC	< 0.000010	< 0.000010	NC
Strontium	mg/L	0.00020	4.32	4.4	2	3.52	3.5	1	0.147	0.143	3
Sulphur (as S)	mg/L	0.50	493	493	0	603	611	1	16.2	15.3	6
Thallium	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	NC	0.000042	0.000039	NC	0.000016	0.000015	NC
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	NC	< 0.00020 DLA	< 0.00020 DLA	NC	< 0.00010	< 0.00010	NC
Titanium	mg/L	0.00030	< 0.0105 DLM	< 0.0102 DLM	NC	< 0.00060 DLA	< 0.00060 DLA	NC	0.00122	0.00128	NC
Uranium	mg/L	0.000010	0.00251	0.00248	1	0.00341	0.00348	2	0.0072	0.00705	2
Vanadium	mg/L	0.00050	< 0.00100 DLA	< 0.00100 DLA	NC	< 0.00100 DLA	< 0.00100 DLA	NC	0.00373	0.00377	1
Zinc	mg/L	0.0030	0.0238	0.0158	NC	0.027	0.026	NC	< 0.0030	< 0.003	NC
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	NC	< 0.00040 DLA	< 0.00040 DLA	NC	0.00049	0.00053	NC
Dissolved Metals											
Aluminum	mg/L	0.0010	0.0032	0.0038	NC	0.0026 DLA	0.0031 DLA	NC	0.0106	0.0114	7
Antimony	mg/L	0.00010	0.143	0.146	2	0.532 DLA	0.522 DLA	2	0.00506	0.00503	1
Arsenic	mg/L	0.00010	0.0702	0.0712	1	2.25 DLA	2.24 DLA	0	0.00894	0.00843	6
Barium	mg/L	0.00010	0.0642	0.0644	0	0.0372 DLA	0.0384 DLA	3	0.04	0.0416	4
Beryllium	mg/L	0.000100	< 0.000100	< 0.000100	NC	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.000020	< 0.000020	NC
Bismuth	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.000050	< 0.000050	NC
Boron	mg/L	0.010	0.287	0.276	4	0.419 DLA	0.437 DLA	4	0.024	0.023	NC
Cadmium	mg/L	0.0000050	0.000024	0.000021	NC	0.000175 DLA	0.000177 DLA	1	0.0000084	0.0000058	NC
Cesium	mg/L	0.000010	0.000074	0.000072	NC	0.000088 DLA	0.000087 DLA	NC	0.000013	0.000012	NC
Chromium (III+VI)	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	NC	< 0.00020 DLA	< 0.00020 DLA	NC	0.00052	0.00054	4
Cobalt	mg/L	0.00010	0.00446	0.00445	0	0.00698 DLA	0.00689 DLA	1	0.0011	0.00108	2
Copper	mg/L	0.00020	0.00181	0.0018	NC	0.0161 DLA	0.0165 DLA	2	0.0013	0.00127	2
Iron	mg/L	0.010	0.024	0.026	NC	< 0.020 DLA	< 0.020 DLA	NC	0.556	0.554	0
Lead	mg/L	0.000050	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.000100 DLA	< 0.000100 DLA	NC	< 0.000050	< 0.000050	NC
Lithium	mg/L	0.0010	0.0321	0.0308	4	0.0173 DLA	0.0177 DLA	2	0.0126	0.0125	1
Manganese	mg/L	0.00010	0.368	0.372	1	0.0668 DLA	0.0684 DLA	2	0.258	0.266	3
Mercury	mg/L	0.0000050	< 0.0000050	< 0.0000050	NC	< 0.0000050	< 0.0000050	NC	< 0.0000050	< 0.0000050	NC
Molybdenum	mg/L	0.000050	0.0104	0.0106	2	0.0228 DLA	0.0222 DLA	3	0.00115	0.00117	2
Nickel	mg/L	0.00050	0.00946	0.0108	13	0.0278 DLA	0.0284 DLA	2	0.00357	0.00363	2
Rubidium	mg/L	0.00020	0.0105	0.0105	0	0.00697 DLA	0.00739 DLA	6	0.00495	0.00499	1
Selenium	mg/L	0.000050	0.000144	0.000177	NC	0.000708 DLA	0.000727 DLA	3	0.000491	0.00043	13
Silver	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	NC	0.000053 DLA	0.000055 DLA	NC	< 0.000010	< 0.000010	NC
Strontium	mg/L	0.00020	4.27	4.42	3	3.47 DLA	3.46 DLA	0	0.141	0.144	2
Sulphur (as S)	mg/L	0.50	425	422	1	585 DLA	580 DLA	1	15.5	14.8	5
Thallium	mg/L	0.000010	< 0.000020 DLA	< 0.000020 DLA	NC	0.000036 DLA	0.000039 DLA	NC	0.000015	0.000014	NC
Tin	mg/L	0.00010	< 0.00020 DLA	< 0.00020 DLA	NC	< 0.00020 DLA	< 0.00020 DLA	NC	< 0.00010	< 0.00010	NC
Titanium	mg/L	0.00030	< 0.00060 DLA	< 0.00060 DLA	NC	< 0.00060 DLA	< 0.00060 DLA	NC	0.00046	0.00039	NC
Uranium	mg/L	0.000010	0.00247	0.00234	5	0.00325 DLA	0.00322 DLA	1	0.0071	0.00682	4
Vanadium	mg/L	0.00050	< 0.00100 DLA	< 0.00100 DLA	NC	< 0.00100 DLA	< 0.00100 DLA	NC	0.00341	0.0034	0
Zinc	mg/L	0.0010	0.0106	0.0101	5	0.0204 DLA	0.0218 DLA	7	< 0.001	< 0.001	NC
Zirconium	mg/L	0.00020	< 0.00040 DLA	< 0.00040 DLA	NC	< 0.00040 DLA	< 0.00040 DLA	NC	0.00047	0.00046	NC

		Station	SNP 43-23			SNP 43-32			MW21-04		
		Sample Date	2024-09-28	2024-09-28	RPD (%)	2024-09-05	2024-09-05	RPD (%)	2024-09-26	2024-09-26	RPD (%)
		Sample Type	N	FD		N	FD		N	FD	
		Unique Sample Identifier	SNP4323-240928	DUP-SNP4323-240928		SNP4332-240905	DUP-SNP4332-240905		GM-2024-5007-01	GM-2024-5007-02	
		Laboratory Sample ID	YL2401641-002	YL2401641-003		YL2401405-006	YL2401405-007		YL2401626-001	YL2401626-002	
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											
Total Cyanide	mg/L	0.005	-	-	-	-	-	-	-	-	-
Sulphide	mg/L	0.0015	-	-	-	-	-	-	-	-	-
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.

RPD = Relative Percent Difference

NC = Not calculated

N/A = Not applicable

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

Table N: GMRP Parameter List - September 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

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CERTIFICATE OF ANALYSIS

Work Order	: **YL2401372**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: Nautilus Environmental (Calgary)
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife Northwest Territories Canada X1A 0G5	Address	: 10828 27 Street SE Calgary AB Canada T2Z 3V9
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 03-Sep-2024 13:47
PO	: YEL218	Date Analysis Commenced	: 10-Oct-2024
C-O-C number	: ----	Issue Date	: 10-Oct-2024 15:22
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

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-240903	----	----	----	----
				Client sampling date / time	03-Sep-2024 11:32	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401372-001	----	----	----	----
					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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right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401372**	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	: 03-Sep-2024 13:47
PO	: YEL218	Issue Date	: 10-Oct-2024 15:22
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 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-240903	DAP-LC50-48	03-Sep-2024	----	----	----		10-Oct-2024	5 days	37 days	× EHT
Bioassays : Survival/LC50 Rainbow Trout (96 hours)										
LDPE carboy SNP431-ACUTE-240903	TRT-LC50-96	03-Sep-2024	----	----	----		10-Oct-2024	5 days	37 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	: **YL2401372**	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	: 03-Sep-2024 13:47
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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

Sample collected September 3, 2024

Final Report

October 10, 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	
YL2401372-001 SNP431-ACUTE-240903/ 2425-0034	2024-09-03 at 1132h	2024-09-04 at 1445h	2024-09-05 at 1340h	2024-09-05 at 1445h	15.8°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
YL2401372-001 SNP431-ACUTE-240903	>100	>100	>100

LC = Lethal Concentration, EC= Effect Concentration

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	3.7 (3.3-4.1) g/L KCl[1]	6.4 (6.1-6.8) g/L NaCl[2]
Reference toxicant historical mean (2 SD Range)	3.8 (2.9-5.0) g/L KCl	6.3 (5.6-7.2) g/L NaCl
Reference toxicant CV	9.1%	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 2024-08-13; [2] Test date 2024-08-28

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

Report By:
Leanne Sario, BSc
Laboratory Biologist

Reviewed By:
Daisy Meyer, BSc
Project Coordinator

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 2425-0034 Chamber 3

Test Log

Day	Date	Time	Initial	Chem. Cart	Double Counted	Daily Data Review
0	2024/09/05	1340 *	PK	7	BH	BC
1	2024/09/06	0930	KO	-	-	BC
2	2024/09/07	0840	NP	-	-	AM
3	2024/09/08	0740	KN	-	-	[illegible]
4	2024/09/09	1200	BH/AM	1	-	AC

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

Sample Information

Initial pH: 7.6
Initial EC (µS/cm): 374 9
Salinity (ppt): 2

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%	9.2	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	7.1	7.1	7.2	7.2	7.5		
Day 4	7.1	7.1	7.4	7.6	7.3		
EC (uS/cm)							
Day 0	700	910	1412	2250	3650		
Day 4	626	808	1234	1950	3200		
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	8.6	8.6	8.6	8.6		
Temperature (°C) (range: 14-16°C)							
Day 0	16	16	16	16	16		
Day 4	16	16	16	16	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: 20240905CTLB

Comments :

Reviewed By: [signature] Date Reviewed: 2024-09-20

NAUTILUS

Control Trout Bench Sheet

Client NE Control Reference Number 20240905CTLB Chamber 3

Test Log

Day	Date	Time	Initial	Chem. Cart	Double Counted	Daily Data Review
0	2024/09/05	1335 *	PK	7	BH	KC
1	2024/09/06	0930	KO	-	-	KC
2	2024/09/07	0850	NP	-	-	AM
3	2024/09/08	0750	RN	-	-	EP
4	2024/09/09	1135 ~~1125~~	BH/AM	1	-	AC

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

Sample Reference Number(s):
245-0029
2425-0034
2425-0033-01
2425-0033-02

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	7.8

EC (uS/cm)

Day 0	422
Day 4	355

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	Trout Lodge
Tank #	HT1
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
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	0.4
2	4.6	0.6
3	4.3	0.7
4	3.6	0.4
5	3.7	0.5
6	4.2	0.6
7	4.1	0.7
8	4.0	0.5
9	4.1	0.5
10	3.7	0.4

Loading Density (g/L): (must be ≤0.5 g/L)	0.3
Mean Length (cm):	4.0
Length Range (cm):	3.6-4.6
Mean Weight (g): (Must be ≥0.3g)	0.5
Weight Range: (g):	0.4-0.7

Comments/Protocol Deviations :

Reviewed By: AM Date Reviewed: 2024 -09- 09

NAUTILUS ENVIRONMENTAL

Daphnia Bench Sheet

Method DAD Client ALS 106 Reference 2425-0034

Test Log

Day	Date	Time	Technician	Chem. Cart	Daily Data Review
0	2024-09-05	1445	AI/JK	2	KO
1	2024-09-06	0845	JK	-	AM
2	2024-09-07	1135	AO	3	KO

Sample Information

Initial pH: 7.6
Initial EC (µS/cm): 3749
Salinity (ppt): 2

Lab Code	CTL	6.25	12.5	25	50	100				
pH (units) (range: 6.0-8.5)										
0	8.2	8.1	8.0	8.0	7.9	7.6				
2	8.2	8.2	8.2	8.1	8.0	7.8				
EC (uS/cm)										
0	446	652	868	1288	2140	3580				
2	412	631	852	1242	1931	3460				
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	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 C3 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) 34
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: 8.5
Temperature (°C) of sample prior to aeration: 20
DO % of sample prior to aeration: 107%
Is aeration required (<40% or >100%)? **Yes or No**
Duration of aeration (37.5 +/- 12.5 mL/min/L) : 20 mins
Filtered with 110um screen prior to testing **Yes or No**
Hardness (mg $CaCO_3$/L) of 100% : 1494
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 P1:08/30
Hardness of dilution water (mg/L) 160

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

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

Comments/Observations:

Reviewed By: OP Date Reviewed: 2024-09-20

APPENDIX C – Chain-of-custody form

Chain of Custody

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

205816

Destination Lab:	**Nautilus Environmental (Calgary)**
Address:	10828 27 Street SE Calgary AB Canada T2Z 3V9
Work Order Number:	**YL2401372**
Original Receipt Date/Time	Instructions Received
03/09/2024 13:47	

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
YL2401372-001	SNP431-ACUT E-~~240806~~ BS 240903	Water	LDPE carboy	DAP-LC50-48, TRT-LC50-96	Survival/LC50 Daphnia Magna 48 hours, Survival/LC50 Rainbow Trout (96 hours)	10-09-2024	03/09/2024 11:32	
YL2401372-001 240903	SNP431-ACUT E-~~240806~~ BS	Water	LDPE carboy			10-09-2024	03/09/2024 11:32	
YL2401372-001 240903	SNP431-ACUT E-~~240806~~ BS	Water	LDPE carboy			10-09-2024	03/09/2024 11:32	
YL2401372-001 240903	SNP431-ACUT E-~~240806~~ BS	Water	LDPE carboy			10-09-2024	03/09/2024 11:32	
YL2401372-001 240903	SNP431-ACUT E-~~240806~~ BS	Water	LDPE carboy			10-09-2024	03/09/2024 11:32	

2425-0054
2024/09/04
14:45
Drop off
OC
1x20L carboys
3x10L carboys
NoS/NoI
Good Cond.
15.5°C

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 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	3-Sep-24	11:32	Water			G	4										X		

Relinquished by (Sampler Signature/ Print): Keenan Kakfwi

Date/Time: 2024-September-03 13:45

Company: SLR Consulting

Received by (Name):	**Received by (Signature)**	**Company: ALS**	**Sample Receipt Temperature (deg. C):**
Simon Arlooktoo		SEPT 03/24	15.6

SAMPLE CONDITION (lab use only)

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

1347

On cooling media: Y / N

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
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	3-Sep-24	11:32	Water			G	4										X								

Relinquished by (Sampler Signature/ Print): Keenan Kakfwi	T.Kakfwi	**Date/Time:** 2024-September-03 13:45	**Company: SLR Consulting**
Received by (Name): Simon Arlooktoo	**Received by (Signature)**	**Company: ALS** SEPT 03/24	**SAMPLE CONDITION (lab use only)**
			Sample Receipt Temperature (deg. C): 15.6
			Samples Received in Good Condition? Yes / No (If no, provide details.) 1347
			On cooling media: Y / N

Environmental Division
Yellowknife
Work Order Reference
YL2401372

Telephone : +1 867 873 5593

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401381**		
Amendment	: **1**		
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	: 04-Sep-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 04-Sep-2024
C-O-C number	: ----	Issue Date	: 07-Oct-2024 16:05
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
- 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*
Cindy Tang	Team Leader - Inorganics	Inorganics, Burnaby, British Columbia
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Oliver Gregg	Client Services Supervisor	External Subcontracting, Yellowknife, Northwest Territories
Owen Cheng		Metals, Burnaby, British Columbia
Rebecca Sit	Supervisor - Organics Extractions	Organics, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	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*
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µS/cm	microsiemens per centimetre
CFU/100mL	colony forming units per hundred millilitres
-	no units
meq/L	milliequivalents per litre
%	percent
µg/L	micrograms 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.

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.
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)				Client sample ID	FB-SNP431-240903	SNP431-240903	SNP4311-240903	BCEP-240903	DUP-BCEP-240903
				Client sampling date / time	03-Sep-2024 11:32	03-Sep-2024 11:32	03-Sep-2024 18:49	03-Sep-2024 19:16	03-Sep-2024 19:16
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-001	YL2401381-002	YL2401381-003	YL2401381-004	YL2401381-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	45.0	104	37.1	37.0
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	45.0	104	37.1	37.0
Conductivity	----	E100/VA	1.0	µS/cm	<1.0	3450	247	3470	3500
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	<0.60	1470	116	1530	1500
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	<0.60	1630	116	1580	1580
pH	----	E108/VA	0.10	pH units	5.24	7.85	8.00	7.71	7.69
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	<3.0	2680	172	2880	2810
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	<1.0	9.2	2.9	2.9
Turbidity	----	E121/VA	0.10	NTU	<0.10	0.28	6.50	2.14	2.20
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	0.0177 RRV	0.0638	0.0160	0.0138
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	6.21	<0.050	6.44	6.25
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	<0.50	509	2.78	525	512
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.020	<0.400 DLDS	0.120	<0.400 DLDS	<0.400 DLDS
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0050	0.465	1.09	<0.100 DLDS	<0.100 DLDS
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0051	0.465	1.11	<0.102	<0.102
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	<0.0200 DLDS	0.0214	<0.0200 DLDS	<0.0200 DLDS
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	----	----	0.114	0.0846	0.0453

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	FB-SNP431-240903	SNP431-240903	SNP4311-240903	BCEP-240903	DUP-BCEP-240903
				Client sampling date / time	03-Sep-2024 11:32	03-Sep-2024 11:32	03-Sep-2024 18:49	03-Sep-2024 19:16	03-Sep-2024 19:16
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-001	YL2401381-002	YL2401381-003	YL2401381-004	YL2401381-005
					Result	Result	Result	Result	Result
Anions and Nutrients									
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	<0.50	0.83	1.59 SFT	0.64	0.63
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	<0.30	1230	19.2	1280	1230
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	<0.50	8.04	14.9	10.0	8.54
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	<0.50	6.72	13.7	9.80	9.14
Total Sulfides									
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L	<0.0015	<0.0015	----	----	----
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	FC-MF/1Y	1.0	CFU/100 mL	1.0	<1.0	----	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	<0.10	41.0	2.64	42.3	40.9
Cation sum	----	EC101/VA	0.10	meq/L	<0.10	38.2	2.59	39.9	39.0
Ion balance (APHA)	----	EC101/VA	0.01	%	0.0	-3.54	-0.96	-2.92	-2.38
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0046	0.0085	0.0324	0.0822	0.0726
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	0.192	0.00115	0.140	0.137
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00029	0.293	0.0639	0.444	0.443
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	<0.00010	0.0178	0.0400	0.0427	0.0421
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100 DLA	<0.000100	<0.000100 DLA	<0.000100 DLA

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	FB-SNP431-240903	SNP431-240903	SNP4311-240903	BCEP-240903	DUP-BCEP-240903
				Client sampling date / time	03-Sep-2024 11:32	03-Sep-2024 11:32	03-Sep-2024 18:49	03-Sep-2024 19:16	03-Sep-2024 19:16
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-001	YL2401381-002	YL2401381-003	YL2401381-004	YL2401381-005
					Result	Result	Result	Result	Result
Total Metals									
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000050	<0.000100 DLA	<0.000100 DLA
Boron, total	7440-42-8	E420/VA	0.010	mg/L	<0.010	0.373	0.010	0.348	0.346
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	0.0000217	<0.0000050	0.0000191	0.0000155
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	<0.050	454	30.9	430	434
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	0.000394	0.000017	0.000159	0.000159
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00050	<0.00100 DLA	<0.00100 DLA
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00010	0.00025	<0.00010	0.00022	<0.00020 DLA
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	0.00390	0.00026	0.00175	0.00167
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	0.00956	0.00137	0.0126	0.0123
Iron, total	7439-89-6	E420/VA	0.010	mg/L	<0.010	<0.020 DLA	0.277	0.203	0.200
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000050	0.000658	0.000653
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	<0.0010	0.0370	0.0037	0.0361	0.0362
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	<0.0050	120	9.47	122	120
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00012	0.00251	1.07	0.0673	0.0668
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	<0.000050	0.0181	0.00129	0.0120	0.0120
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	0.0102	0.00051	0.0110	0.0110
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.100 DLA	0.110	<0.100 DLA	<0.100 DLA
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	<0.050	13.6	1.94	13.9	13.9
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	<0.00020	0.0128	0.00519	0.0122	0.0123
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000050	0.000432	0.000068	0.000250	0.000237

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	FB-SNP431-240903	SNP431-240903	SNP4311-240903	BCEP-240903	DUP-BCEP-240903
				Client sampling date / time	03-Sep-2024 11:32	03-Sep-2024 11:32	03-Sep-2024 18:49	03-Sep-2024 19:16	03-Sep-2024 19:16
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-001	YL2401381-002	YL2401381-003	YL2401381-004	YL2401381-005
					Result	Result	Result	Result	Result
Total Metals									
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	<0.10	0.41	1.17	0.52	0.49
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	0.000043	<0.000010	0.000042	0.000037
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	<0.050	215	4.38	216	212
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	<0.00020	4.52	0.117	4.55	4.52
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	<0.50	461	7.67	463	480
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	0.00065	<0.00020	0.00056	0.00051
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	0.000022	<0.000010	<0.000020 DLA	<0.000020 DLA
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00020 DLA
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00020 DLA
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	<0.00060 DLA	0.00063	<0.00270 DLM	<0.00330 DLM
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	0.00025	<0.00010	<0.00020 DLA	<0.00020 DLA
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	<0.000010	0.00264	0.000946	0.00199	0.00205
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00050	<0.00100 DLA	<0.00100 DLA
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	<0.0060 DLA	<0.0030	0.0086	0.0080
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00020	<0.00040 DLA	<0.00040 DLA
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	<0.0010	0.0072	0.0069	0.0072	0.0062
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	<0.00010	0.180	0.00106	0.134	0.131
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.00011	0.288	0.0559	0.421	0.414
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	<0.00010	0.0181	0.0324	0.0420	0.0419
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	FB-SNP431-240903	SNP431-240903	SNP4311-240903	BCEP-240903	DUP-BCEP-240903
				Client sampling date / time	03-Sep-2024 11:32	03-Sep-2024 11:32	03-Sep-2024 18:49	03-Sep-2024 19:16	03-Sep-2024 19:16
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-001	YL2401381-002	YL2401381-003	YL2401381-004	YL2401381-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000050	<0.000100 DLA	<0.000100 DLA
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	<0.010	0.300	<0.010	0.303	0.294
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	0.0000263	<0.0000050	0.0000122	<0.0000100 DLA
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	<0.050	414	31.1	429	419
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	0.000368	0.000014	0.000138	0.000144
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00050	<0.00100 DLA	<0.00100 DLA
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00020 DLA
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00010	0.00347	0.00022	0.00158	0.00156
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	<0.00020	0.00864	0.00113	0.00905	0.00896
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	<0.010	<0.020 DLA	0.148	0.076	0.061
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000050	0.000268	0.000205
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	<0.0010	0.0339	0.0036	0.0361	0.0353
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	<0.0050	105	9.22	112	109
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	<0.00010	0.00114	0.778	0.0606	0.0592
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	<0.000050	0.0177	0.00122	0.0121	0.0119
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00050	0.00962	<0.00050	0.0104	0.0105
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.100 DLA	<0.050	<0.100 DLA	<0.100 DLA
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	<0.050	13.3	1.93	13.8	13.5
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	<0.00020	0.0125	0.00495	0.0122	0.0120
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	<0.000050	0.000407	0.000067	0.000233	0.000204

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	FB-SNP431-240903	SNP431-240903	SNP4311-240903	BCEP-240903	DUP-BCEP-240903
				Client sampling date / time	03-Sep-2024 11:32	03-Sep-2024 11:32	03-Sep-2024 18:49	03-Sep-2024 19:16	03-Sep-2024 19:16
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-001	YL2401381-002	YL2401381-003	YL2401381-004	YL2401381-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	<0.050	0.388	0.645	0.305	0.259
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	0.000027	<0.000010	<0.000020 DLA	<0.000020 DLA
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	<0.050	198	4.33	206	202
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	<0.00020	4.28	0.111	4.34	4.29
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	<0.50	452	6.56	466	463
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00020	<0.00040 DLA	<0.00040 DLA
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	0.000028	<0.000010	<0.000020 DLA	<0.000020 DLA
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00020 DLA
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00020 DLA
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00060 DLA	<0.00030	<0.00060 DLA	<0.00060 DLA
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00010	0.00026	<0.00010	<0.00020 DLA	<0.00020 DLA
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	<0.000010	0.00265	0.000896	0.00206	0.00202
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00050	<0.00100 DLA	<0.00100 DLA
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	0.0022	<0.0010	0.0063	0.0062
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00020	<0.00040 DLA	<0.00040 DLA
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

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	FB-SNP431-240903	SNP431-240903	SNP4311-240903	BCEP-240903	DUP-BCEP-240903
				Client sampling date / time	03-Sep-2024 11:32	03-Sep-2024 11:32	03-Sep-2024 18:49	03-Sep-2024 19:16	03-Sep-2024 19:16
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-001	YL2401381-002	YL2401381-003	YL2401381-004	YL2401381-005
					Result	Result	Result	Result	Result
Volatile Organic Compounds [Fuels]									
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	%	91.5	87.9	97.7	84.6	90.1
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	119	122	114	132 SUR-ND	110
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	93.8	94.7	92.8	94.9	89.7
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	99.9	99.5	99.5	98.7	99.7

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

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

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240903	----	----	----	----
				Client sampling date / time	03-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-006	----	----	----	----
					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	<1.0	----	----	----	----
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	5.25	----	----	----	----
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	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	<0.0020	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240903	----	----	----	----
				Client sampling date / time	03-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-006	----	----	----	----
					Result	----	----	----	----
Anions and Nutrients									
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/WT	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	----	----	----	----
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/100 mL	<1.0	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240903	----	----	----	----
				Client sampling date / time	03-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-006	----	----	----	----
					Result	----	----	----	----
Total Metals									
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/VA	0.00050	mg/L	<0.00050	----	----	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00010	----	----	----	----
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	TB-240903	----	----	----	----
				Client sampling date / time	03-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-006	----	----	----	----
					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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240903	----	----	----	----
				Client sampling date / time	03-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-006	----	----	----	----
					Result	----	----	----	----
Dissolved Metals									
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/VA	0.00050	mg/L	<0.00050	----	----	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	----	----	----	----
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	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240903	----	----	----	----
				Client sampling date / time	03-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-006	----	----	----	----
					Result	----	----	----	----
Dissolved Metals									
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]									
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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240903	----	----	----	----
				Client sampling date / time	03-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401381-006	----	----	----	----
					Result	----	----	----	----
Volatile Organic Compounds [Fuels]									
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	%	90.0	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	116	----	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	92.5	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	99.8	----	----	----	----

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

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

ALS Canada Ltd.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401381**	Page	: 1 of 30
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	: 04-Sep-2024 09:01
PO	: YEL218	Issue Date	: 07-Oct-2024 16:06
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 Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Matrix Spike outliers occur.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- 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

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

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
Laboratory Control Sample (LCS) Recoveries								
Total Metals	QC-MRG2-1643324 002	----	Phosphorus, total	7723-14-0	E420	123 % MES	80.0-120%	Recovery greater than upper control limit

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).*

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	YL2401381-004	BCEP-240903	Dichlorotoluene, 3,4-	95-75-0	132 %	70.0-130 %	Recovery greater than upper 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) BCEP-240903	E298	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	10-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) DUP-BCEP-240903	E298	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	10-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) FB-SNP431-240903	E298	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	10-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4311-240903	E298	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	10-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP431-240903	E298	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	10-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (lab preserved) TB-240903	E298	03-Sep-2024	07-Sep-2024	3 days	4 days	× EHT	10-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE BCEP-240903	E235.Br-L	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-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 DUP-BCEP-240903	E235.Br-L	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE FB-SNP431-240903	E235.Br-L	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4311-240903	E235.Br-L	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP431-240903	E235.Br-L	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE TB-240903	E235.Br-L	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE BCEP-240903	E235.Cl	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP-BCEP-240903	E235.Cl	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE FB-SNP431-240903	E235.Cl	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4311-240903	E235.Cl	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-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 SNP431-240903	E235.Cl	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TB-240903	E235.Cl	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE BCEP-240903	E235.F	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-BCEP-240903	E235.F	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE FB-SNP431-240903	E235.F	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4311-240903	E235.F	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP431-240903	E235.F	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TB-240903	E235.F	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE BCEP-240903	E235.NO3-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-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 DUP-BCEP-240903	E235.NO3-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE FB-SNP431-240903	E235.NO3-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4311-240903	E235.NO3-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP431-240903	E235.NO3-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE TB-240903	E235.NO3-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE BCEP-240903	E235.NO2-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE DUP-BCEP-240903	E235.NO2-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE FB-SNP431-240903	E235.NO2-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4311-240903	E235.NO2-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-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										
SNP431-240903	E235.NO2-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
TB-240903	E235.NO2-L	03-Sep-2024	06-Sep-2024	3 days	3 days	✓	06-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
BCEP-240903	E392	03-Sep-2024	----	----	----		08-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
DUP-BCEP-240903	E392	03-Sep-2024	----	----	----		08-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
FB-SNP431-240903	E392	03-Sep-2024	----	----	----		08-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP4311-240903	E392	03-Sep-2024	----	----	----		08-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP431-240903	E392	03-Sep-2024	----	----	----		08-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
TB-240903	E392	03-Sep-2024	----	----	----		08-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
BCEP-240903	E235.SO4	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-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 DUP-BCEP-240903	E235.SO4	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE FB-SNP431-240903	E235.SO4	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4311-240903	E235.SO4	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP431-240903	E235.SO4	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TB-240903	E235.SO4	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	06-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) BCEP-240903	E372-U	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	10-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) DUP-BCEP-240903	E372-U	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	10-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4311-240903	E372-U	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	10-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (lab preserved) TB-240903	E372-U	03-Sep-2024	07-Sep-2024	3 days	4 days	× EHT	10-Sep-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Cyanides : Total Cyanide										
HDPE - total (sodium hydroxide) SNP431-240903	E333	03-Sep-2024	01-Oct-2024	14 days	28 days	✗ EHT	01-Oct-2024	14 days	28 days	✗ EHT
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide) FB-SNP431-240903	E333	03-Sep-2024	11-Sep-2024	14 days	8 days	✓	11-Sep-2024	14 days	8 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide) TB-240903	E333	03-Sep-2024	12-Sep-2024	14 days	9 days	✓	12-Sep-2024	14 days	9 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) BCEP-240903	E421.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) DUP-BCEP-240903	E421.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) FB-SNP431-240903	E421.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4311-240903	E421.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP431-240903	E421.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TB-240903	E421.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: 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)										
BCEP-240903	E509	03-Sep-2024	14-Sep-2024	28 days	10 days	✓	14-Sep-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
DUP-BCEP-240903	E509	03-Sep-2024	14-Sep-2024	28 days	10 days	✓	14-Sep-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP4311-240903	E509	03-Sep-2024	14-Sep-2024	28 days	10 days	✓	14-Sep-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
FB-SNP431-240903	E509	03-Sep-2024	14-Sep-2024	28 days	11 days	✓	14-Sep-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SNP431-240903	E509	03-Sep-2024	14-Sep-2024	28 days	11 days	✓	14-Sep-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial - dissolved (lab preserved)										
TB-240903	E509	03-Sep-2024	14-Sep-2024	28 days	11 days	✓	14-Sep-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
BCEP-240903	E421	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
DUP-BCEP-240903	E421	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
FB-SNP431-240903	E421	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4311-240903	E421	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP431-240903	E421	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TB-240903	E421	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) BCEP-240903	E601	03-Sep-2024	07-Sep-2024	14 days	3 days	✓	08-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) DUP-BCEP-240903	E601	03-Sep-2024	07-Sep-2024	14 days	3 days	✓	08-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP4311-240903	E601	03-Sep-2024	07-Sep-2024	14 days	3 days	✓	08-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) FB-SNP431-240903	E601	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	08-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP431-240903	E601	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	08-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) TB-240903	E601	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	08-Sep-2024	40 days	1 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) BCEP-240903	E581.VH+F1	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-2024	14 days	4 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) DUP-BCEP-240903	E581.VH+F1	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-2024	14 days	4 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) FB-SNP431-240903	E581.VH+F1	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-2024	14 days	4 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP4311-240903	E581.VH+F1	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-2024	14 days	4 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP431-240903	E581.VH+F1	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-2024	14 days	4 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) TB-240903	E581.VH+F1	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-2024	14 days	4 days	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) FB-SNP431-240903	FC-MF	03-Sep-2024	----	----	----		04-Sep-2024	30 hrs	21 hrs	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) SNP431-240903	FC-MF	03-Sep-2024	----	----	----		04-Sep-2024	30 hrs	21 hrs	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) TB-240903	FC-MF	03-Sep-2024	----	----	----		04-Sep-2024	30 hrs	21 hrs	✓

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) BCEP-240903	E358-L	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	07-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) DUP-BCEP-240903	E358-L	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	07-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) FB-SNP431-240903	E358-L	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	07-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4311-240903	E358-L	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	07-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP431-240903	E358-L	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	07-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) TB-240903	E358-L	03-Sep-2024	07-Sep-2024	3 days	4 days	✗ EHT	07-Sep-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) BCEP-240903	E355-L	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	07-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) DUP-BCEP-240903	E355-L	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	07-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) FB-SNP431-240903	E355-L	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	07-Sep-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) SNP4311-240903	E355-L	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	07-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP431-240903	E355-L	03-Sep-2024	07-Sep-2024	28 days	4 days	✓	07-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (lab preserved) TB-240903	E355-L	03-Sep-2024	07-Sep-2024	3 days	4 days	✗ EHT	07-Sep-2024	28 days	0 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE BCEP-240903	E290	03-Sep-2024	06-Sep-2024	14 days	3 days	✓	07-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-BCEP-240903	E290	03-Sep-2024	06-Sep-2024	14 days	3 days	✓	07-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE FB-SNP431-240903	E290	03-Sep-2024	06-Sep-2024	14 days	3 days	✓	07-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4311-240903	E290	03-Sep-2024	06-Sep-2024	14 days	3 days	✓	07-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP431-240903	E290	03-Sep-2024	06-Sep-2024	14 days	3 days	✓	07-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TB-240903	E290	03-Sep-2024	06-Sep-2024	14 days	3 days	✓	07-Sep-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-240903	E100	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	07-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-BCEP-240903	E100	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	07-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE FB-SNP431-240903	E100	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	07-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4311-240903	E100	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	07-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP431-240903	E100	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	07-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE TB-240903	E100	03-Sep-2024	06-Sep-2024	28 days	3 days	✓	07-Sep-2024	28 days	4 days	✓
Physical Tests : pH by Meter										
HDPE BCEP-240903	E108	03-Sep-2024	06-Sep-2024	0.25 hrs	73 hrs	✗ EHTR-FM	07-Sep-2024	0.25 hrs	87 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-BCEP-240903	E108	03-Sep-2024	06-Sep-2024	0.25 hrs	73 hrs	✗ EHTR-FM	07-Sep-2024	0.25 hrs	87 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4311-240903	E108	03-Sep-2024	06-Sep-2024	0.25 hrs	73 hrs	✗ EHTR-FM	07-Sep-2024	0.25 hrs	87 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 FB-SNP431-240903	E108	03-Sep-2024	06-Sep-2024	0.25 hrs	81 hrs	✗ EHTR-FM	07-Sep-2024	0.25 hrs	94 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP431-240903	E108	03-Sep-2024	06-Sep-2024	0.25 hrs	81 hrs	✗ EHTR-FM	07-Sep-2024	0.25 hrs	94 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE TB-240903	E108	03-Sep-2024	06-Sep-2024	0.25 hrs	81 hrs	✗ EHTR-FM	07-Sep-2024	0.25 hrs	94 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE BCEP-240903	E162-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE DUP-BCEP-240903	E162-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE FB-SNP431-240903	E162-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4311-240903	E162-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP431-240903	E162-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE TB-240903	E162-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] BCEP-240903	E160-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] DUP-BCEP-240903	E160-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] FB-SNP431-240903	E160-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4311-240903	E160-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP431-240903	E160-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] TB-240903	E160-L	03-Sep-2024	----	----	----		10-Sep-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE BCEP-240903	E121	03-Sep-2024	----	----	----		07-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-BCEP-240903	E121	03-Sep-2024	----	----	----		07-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4311-240903	E121	03-Sep-2024	----	----	----		07-Sep-2024	3 days	3 days	✓

Matrix: **Water**

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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 FB-SNP431-240903	E121	03-Sep-2024	----	----	----		07-Sep-2024	3 days	4 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP431-240903	E121	03-Sep-2024	----	----	----		07-Sep-2024	3 days	4 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE TB-240903	E121	03-Sep-2024	----	----	----		07-Sep-2024	3 days	4 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4311-240903	E420.Cr-L	03-Sep-2024	12-Sep-2024	180 days	11 days	✓	13-Sep-2024	180 days	9 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) FB-SNP431-240903	E420.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP431-240903	E420.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TB-240903	E420.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) BCEP-240903	E420.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	9 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) DUP-BCEP-240903	E420.Cr-L	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	9 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) BCEP-240903	E508	03-Sep-2024	12-Sep-2024	28 days	9 days	✓	12-Sep-2024	28 days	9 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) DUP-BCEP-240903	E508	03-Sep-2024	12-Sep-2024	28 days	9 days	✓	12-Sep-2024	28 days	9 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) FB-SNP431-240903	E508	03-Sep-2024	12-Sep-2024	28 days	9 days	✓	12-Sep-2024	28 days	9 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4311-240903	E508	03-Sep-2024	12-Sep-2024	28 days	9 days	✓	12-Sep-2024	28 days	9 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP431-240903	E508	03-Sep-2024	12-Sep-2024	28 days	9 days	✓	12-Sep-2024	28 days	9 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) TB-240903	E508	03-Sep-2024	12-Sep-2024	28 days	9 days	✓	12-Sep-2024	28 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) BCEP-240903	E420	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) DUP-BCEP-240903	E420	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) FB-SNP431-240903	E420	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4311-240903	E420	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP431-240903	E420	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TB-240903	E420	03-Sep-2024	12-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	10 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) FB-SNP431-240903	E395	03-Sep-2024	----	----	----		07-Sep-2024	7 days	4 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) TB-240903	E395	03-Sep-2024	----	----	----		07-Sep-2024	7 days	4 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) SNP431-240903	E395	03-Sep-2024	----	----	----		11-Sep-2024	7 days	8 days	× EHT
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) BCEP-240903	E611A	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) DUP-BCEP-240903	E611A	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) FB-SNP431-240903	E611A	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-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
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP4311-240903	E611A	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP431-240903	E611A	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-2024	14 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) TB-240903	E611A	03-Sep-2024	07-Sep-2024	14 days	4 days	✓	07-Sep-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	1637878	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1638160	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1637884	1	6	16.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1638228	1	18	5.5	5.0	✓
Chloride in Water by IC	E235.Cl	1637882	1	20	5.0	5.0	✓
Conductivity in Water	E100	1637876	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1643298	1	6	16.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1651238	2	29	6.9	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1643297	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1638162	1	7	14.2	5.0	✓
Fluoride in Water by IC	E235.F	1637883	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1637880	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1637881	1	20	5.0	5.0	✓
pH by Meter	E108	1637877	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1639379	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1637879	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1642804	1	13	7.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1643325	1	6	16.6	5.0	✓
Total Cyanide	E333	1646037	2	27	7.4	5.0	✓
Total Mercury in Water by CVAAS	E508	1648788	2	25	8.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1643324	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1638163	1	6	16.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1638161	1	4	25.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1638659	2	32	6.2	5.0	✓
Turbidity by Nephelometry	E121	1638055	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1638229	1	12	8.3	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1637878	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1638160	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1637884	1	6	16.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1638228	1	18	5.5	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1638045	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1637882	1	20	5.0	5.0	✓
Conductivity in Water	E100	1637876	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1643298	1	6	16.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1651238	2	29	6.9	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	1643297	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1638162	1	7	14.2	5.0	✓
Fluoride in Water by IC	E235.F	1637883	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1637880	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1637881	1	20	5.0	5.0	✓
pH by Meter	E108	1637877	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1639379	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1637879	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1642804	1	13	7.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1643325	1	6	16.6	5.0	✓
Total Cyanide	E333	1646037	2	27	7.4	5.0	✓
Total Mercury in Water by CVAAS	E508	1648788	2	25	8.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1643324	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1638163	1	6	16.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1638161	1	4	25.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1638659	2	32	6.2	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1642793	1	13	7.6	5.0	✓
Turbidity by Nephelometry	E121	1638055	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1638229	1	12	8.3	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1637878	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1638160	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1637884	1	6	16.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1638228	1	18	5.5	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1638045	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1637882	1	20	5.0	5.0	✓
Conductivity in Water	E100	1637876	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1643298	1	6	16.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1651238	2	29	6.9	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1643297	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1638162	1	7	14.2	5.0	✓
Fluoride in Water by IC	E235.F	1637883	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1637880	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1637881	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1639379	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1637879	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1642804	1	13	7.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1643325	1	6	16.6	5.0	✓
Total Cyanide	E333	1646037	2	27	7.4	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	1648788	2	25	8.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1643324	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1638163	1	6	16.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1638161	1	4	25.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1638659	2	32	6.2	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1642793	1	13	7.6	5.0	✓
Turbidity by Nephelometry	E121	1638055	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1638229	1	12	8.3	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1638160	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1637884	1	6	16.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1638228	1	18	5.5	5.0	✓
Chloride in Water by IC	E235.Cl	1637882	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1643298	1	6	16.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1651238	2	29	6.9	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1643297	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1638162	1	7	14.2	5.0	✓
Fluoride in Water by IC	E235.F	1637883	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1637880	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1637881	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1639379	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1637879	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1643325	1	6	16.6	5.0	✓
Total Cyanide	E333	1646037	2	27	7.4	5.0	✓
Total Mercury in Water by CVAAS	E508	1648788	2	25	8.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1643324	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1638163	1	6	16.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1638161	1	4	25.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1638659	2	32	6.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1638229	1	12	8.3	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
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 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	: **YL2401381**	Page	: 1 of 21
Amendment	: **1**		
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Yellowknife
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Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 04-Sep-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 04-Sep-2024
C-O-C number	: ----	Issue Date	: 07-Oct-2024 16:05
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:

- 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*
Cindy Tang	Team Leader - Inorganics	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: 1637876)											
VA24C3212-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	315	311	1.28%	10%	----
Physical Tests (QC Lot: 1637877)											
VA24C3212-003	Anonymous	pH	----	E108	0.10	pH units	8.45	8.46	0.118%	4%	----
Physical Tests (QC Lot: 1637878)											
VA24C3212-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	159	160	0.501%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	6.4	6.2	3.17%	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	3.2	3.1	0.1	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	166	166	0.361%	20%	----
Physical Tests (QC Lot: 1638055)											
VA24C3212-006	Anonymous	Turbidity	----	E121	0.10	NTU	1.68	1.84	9.08%	15%	----
Physical Tests (QC Lot: 1642804)											
VA24C3430-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	10.0	mg/L	124	111	11.6%	20%	----
Anions and Nutrients (QC Lot: 1637879)											
YL2401381-001	FB-SNP431-240903	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	<0.30	<0.30	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1637880)											
YL2401381-001	FB-SNP431-240903	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: 1637881)											
YL2401381-001	FB-SNP431-240903	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: 1637882)											
YL2401381-001	FB-SNP431-240903	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1637883)											
YL2401381-001	FB-SNP431-240903	Fluoride	16984-48-8	E235.F	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1637884)											
YL2401381-001	FB-SNP431-240903	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1638160)											
FJ2402660-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0245	0.0247	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1638161)											
YL2401381-003	SNP4311-240903	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.114	0.116	2.04%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1639379)											
VA24C3304-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	2.26	2.24	0.02	Diff <2x LOR	----
Cyanides (QC Lot: 1646037)											
CG2412785-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Cyanides (QC Lot: 1646041)											
KS2403646-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1638162)											
FJ2402660-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	2.50	2.60	0.10	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1638163)											
YL2401381-001	FB-SNP431-240903	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Total Sulfides (QC Lot: 1638659)											
EO2407641-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.0034	0.0033	0.00007	Diff <2x LOR	----
Total Sulfides (QC Lot: 1645460)											
EO2407758-006	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.0036	0.0036	0.00007	Diff <2x LOR	----
Total Metals (QC Lot: 1643324)											
YL2401381-001	FB-SNP431-240903	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0046	0.0033	0.0013	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00029	0.00026	0.00003	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E420	0.000100	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	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00012	0.00011	0.000008	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	<0.000050	<0.000050	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: 1643324) - continued											
YL2401381-001	FB-SNP431-240903	Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1643325)											
YL2401381-001	FB-SNP431-240903	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Total Metals (QC Lot: 1648788)											
VA24C3089-009	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1648789)											
YL2401381-002	SNP431-240903	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1643297)											
YL2401381-001	FB-SNP431-240903	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	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00011	0.00011	0.000007	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		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	<0.010	<0.010	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
Dissolved Metals (QC Lot: 1643297) - continued											
YL2401381-001	FB-SNP431-240903	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	<0.050	<0.050	0	Diff <2x LOR	----
		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	<0.00020	<0.00020	0	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	<0.0010	<0.0010	0	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	<0.000050	<0.000050	0	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	<0.050	<0.050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	<0.050	<0.050	0	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	<0.050	<0.050	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		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	<0.000010	<0.000010	0	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	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1643298)											
YL2401381-001	FB-SNP431-240903	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: 1651238)											
FJ2402750-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1651239)											
YL2401381-004	BCEP-240903	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1638228)											
VA24C2554-001	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: 1638229)											
VA24C2977-005	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: 1637876)						
Conductivity	----	E100	1	µS/cm	1.2	----
Physical Tests (QCLot: 1637878)						
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: 1638055)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1642793)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1642804)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1637879)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1637880)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1637881)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1637882)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1637883)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1637884)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1638160)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1638161)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1639379)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Cyanides (QCLot: 1646037)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Cyanides (QCLot: 1646037) - continued						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Cyanides (QCLot: 1646041)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Cyanides (QCLot: 1683581)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1638162)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1638163)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1638659)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Sulfides (QCLot: 1645460)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1643324)						
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: 1643324) - 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: 1643325)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1648788)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1648789)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1643297)						
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: 1643297) - 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: 1643298)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1651238)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1651239)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1638228)						
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: 1638045)						
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: 1638229)						
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: 1637876)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	99.7	90.0	110	----
Physical Tests (QCLot: 1637877)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1637878)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	86.6	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	99.7	85.0	115	----
Physical Tests (QCLot: 1638055)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1642793)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	95.0	85.0	115	----
Physical Tests (QCLot: 1642804)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	110	85.0	115	----
Anions and Nutrients (QCLot: 1637879)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1637880)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.2	90.0	110	----
Anions and Nutrients (QCLot: 1637881)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.2	90.0	110	----
Anions and Nutrients (QCLot: 1637882)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1637883)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	98.0	90.0	110	----
Anions and Nutrients (QCLot: 1637884)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	99.1	85.0	115	----
Anions and Nutrients (QCLot: 1638160)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.5	85.0	115	----
Anions and Nutrients (QCLot: 1638161)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	92.9	80.0	120	----
Anions and Nutrients (QCLot: 1639379)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	96.9	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
Cyanides (QCLot: 1646037)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	94.1	80.0	120	----
Cyanides (QCLot: 1646041)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	97.6	80.0	120	----
Cyanides (QCLot: 1683581)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	96.9	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1638162)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	97.2	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1638163)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	98.8	80.0	120	----
Total Sulfides (QCLot: 1638659)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	108	80.0	120	----
Total Sulfides (QCLot: 1645460)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	106	80.0	120	----
Total Metals (QCLot: 1643324)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	105	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	101	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	109	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	98.8	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	99.9	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	99.6	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	97.2	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	102	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	93.4	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	96.7	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	103	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	101	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: 1643324) - continued									
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	# 123	80.0	120	MES
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	99.6	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	108	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	100	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	98.0	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	95.4	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	100	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	96.4	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	102	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	97.6	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.8	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	103	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.5	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	103	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	102	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Total Metals (QCLot: 1643325)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Total Metals (QCLot: 1648788)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	88.5	80.0	120	----
Total Metals (QCLot: 1648789)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	94.3	80.0	120	----
Dissolved Metals (QCLot: 1643297)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	98.1	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	101	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	99.4	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	99.3	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	92.3	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: 1643297) - continued									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	95.5	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	95.8	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	98.0	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	97.7	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	99.3	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	101	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	104	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	98.8	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	97.9	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	99.6	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	98.5	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	97.2	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	97.3	80.0	120	----
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	92.4	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
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	104	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	98.1	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.0	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	96.9	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	98.6	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	92.0	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	94.7	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	99.4	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	96.4	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	95.9	80.0	120	----
Dissolved Metals (QCLot: 1643298)									
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	98.8	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 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
Volatile Organic Compounds (QCLot: 1638228)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	97.5	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	98.2	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	101	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	97.1	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	96.1	70.0	130	----
Hydrocarbons (QCLot: 1638045)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	130	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	118	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	124	70.0	130	----
Hydrocarbons (QCLot: 1638229)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	83.5	70.0	130	----

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).*

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: 1637879)										
YL2401381-002	SNP431-240903	Sulfate (as SO4)	14808-79-8	E235.SO4	1910 mg/L	2000 mg/L	95.4	75.0	125	----
Anions and Nutrients (QCLot: 1637880)										
YL2401381-002	SNP431-240903	Nitrate (as N)	14797-55-8	E235.NO3-L	48.0 mg/L	50 mg/L	96.1	75.0	125	----
Anions and Nutrients (QCLot: 1637881)										
YL2401381-002	SNP431-240903	Nitrite (as N)	14797-65-0	E235.NO2-L	9.54 mg/L	10 mg/L	95.4	75.0	125	----
Anions and Nutrients (QCLot: 1637882)										
YL2401381-002	SNP431-240903	Chloride	16887-00-6	E235.Cl	1940 mg/L	2000 mg/L	97.0	75.0	125	----
Anions and Nutrients (QCLot: 1637883)										
YL2401381-002	SNP431-240903	Fluoride	16984-48-8	E235.F	20.2 mg/L	20 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1637884)										
YL2401381-002	SNP431-240903	Bromide	24959-67-9	E235.Br-L	9.47 mg/L	10 mg/L	94.7	75.0	125	----
Anions and Nutrients (QCLot: 1638160)										
FJ2402677-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0945 mg/L	0.1 mg/L	94.5	75.0	125	----
Anions and Nutrients (QCLot: 1638161)										
YL2401381-004	BCEP-240903	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1639379)										
YL2401360-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	8.73 mg/L	10 mg/L	87.3	75.0	125	----
Cyanides (QCLot: 1646037)										
CG2412785-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.227 mg/L	0.25 mg/L	90.9	75.0	125	----
Cyanides (QCLot: 1646041)										
KS2403646-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.248 mg/L	0.25 mg/L	99.3	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1638162)										
YL2401381-001	FB-SNP431-240903	Carbon, dissolved organic [DOC]	----	E358-L	4.79 mg/L	5 mg/L	95.8	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1638163)										
YL2401381-002	SNP431-240903	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Total Sulfides (QCLot: 1638659)										
EO2407641-002	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.249 mg/L	0.2 mg/L	124	75.0	125	----
Total Sulfides (QCLot: 1645460)										
EO2407758-007	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.234 mg/L	0.2 mg/L	117	75.0	125	----
Total Metals (QCLot: 1643324)										

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: 1643324) - continued										
YL2401381-002	SNP431-240903	Aluminum, total	7429-90-5	E420	0.397 mg/L	0.4 mg/L	99.3	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	0.0380 mg/L	0.04 mg/L	95.0	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0741 mg/L	0.08 mg/L	92.6	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0175 mg/L	0.02 mg/L	87.3	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00753 mg/L	0.008 mg/L	94.1	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0198 mg/L	0.02 mg/L	98.8	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0778 mg/L	0.08 mg/L	97.3	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
		Copper, total	7440-50-8	E420	0.0355 mg/L	0.04 mg/L	88.8	70.0	130	----
		Iron, total	7439-89-6	E420	3.74 mg/L	4 mg/L	93.5	70.0	130	----
		Lead, total	7439-92-1	E420	0.0361 mg/L	0.04 mg/L	90.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.174 mg/L	0.2 mg/L	87.1	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0394 mg/L	0.04 mg/L	98.4	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0393 mg/L	0.04 mg/L	98.3	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0726 mg/L	0.08 mg/L	90.7	70.0	130	----
		Phosphorus, total	7723-14-0	E420	23.8 mg/L	20 mg/L	119	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0382 mg/L	0.04 mg/L	95.4	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0814 mg/L	0.08 mg/L	102	70.0	130	----
		Silicon, total	7440-21-3	E420	18.5 mg/L	20 mg/L	92.4	70.0	130	----
		Silver, total	7440-22-4	E420	0.00762 mg/L	0.008 mg/L	95.3	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0815 mg/L	0.08 mg/L	102	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00713 mg/L	0.008 mg/L	89.1	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0284 mg/L	0.04 mg/L	71.1	70.0	130	----
		Tin, total	7440-31-5	E420	0.0389 mg/L	0.04 mg/L	97.2	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0832 mg/L	0.08 mg/L	104	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0369 mg/L	0.04 mg/L	92.3	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00759 mg/L	0.008 mg/L	94.9	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.203 mg/L	0.2 mg/L	101	70.0	130	----
		Zinc, total	7440-66-6	E420	0.722 mg/L	0.8 mg/L	90.3	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0822 mg/L	0.08 mg/L	103	70.0	130	----
Total Metals (QCLot: 1643325)										
YL2401381-002	SNP431-240903	Chromium, total	7440-47-3	E420.Cr-L	0.0778 mg/L	0.08 mg/L	97.3	70.0	130	----
Total Metals (QCLot: 1648788)										
VA24C3089-010	Anonymous	Mercury, total	7439-97-6	E508	0.0000911 mg/L	0 mg/L	91.1	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: 1648789)										
YL2401381-003	SNP4311-240903	Mercury, total	7439-97-6	E508	0.0000905 mg/L	0 mg/L	90.5	70.0	130	----
Dissolved Metals (QCLot: 1643297)										
YL2401381-002	SNP431-240903	Aluminum, dissolved	7429-90-5	E421	0.395 mg/L	0.4 mg/L	98.7	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	0.0362 mg/L	0.04 mg/L	90.4	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0747 mg/L	0.08 mg/L	93.3	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0176 mg/L	0.02 mg/L	88.0	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00756 mg/L	0.008 mg/L	94.5	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0187 mg/L	0.02 mg/L	93.4	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0793 mg/L	0.08 mg/L	99.1	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0371 mg/L	0.04 mg/L	92.8	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	3.81 mg/L	4 mg/L	95.3	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0362 mg/L	0.04 mg/L	90.6	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.179 mg/L	0.2 mg/L	89.6	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0388 mg/L	0.04 mg/L	97.0	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0395 mg/L	0.04 mg/L	98.8	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0725 mg/L	0.08 mg/L	90.6	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	21.1 mg/L	20 mg/L	106	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	98.6	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0821 mg/L	0.08 mg/L	103	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	19.5 mg/L	20 mg/L	97.6	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00757 mg/L	0.008 mg/L	94.6	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	0.0807 mg/L	0.08 mg/L	101	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00699 mg/L	0.008 mg/L	87.3	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0384 mg/L	0.04 mg/L	96.1	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0383 mg/L	0.04 mg/L	95.8	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0768 mg/L	0.08 mg/L	95.9	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0366 mg/L	0.04 mg/L	91.6	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00782 mg/L	0.008 mg/L	97.8	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.200 mg/L	0.2 mg/L	100	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.749 mg/L	0.8 mg/L	93.6	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0778 mg/L	0.08 mg/L	97.3	70.0	130	----
Dissolved Metals (QCLot: 1643298)										
YL2401381-002	SNP431-240903	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0793 mg/L	0.08 mg/L	99.1	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1651238)										
VA24C2826-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000956 mg/L	0 mg/L	95.6	70.0	130	----
Dissolved Metals (QCLot: 1651239)										
YL2401381-005	DUP-BCEP-240903	Mercury, dissolved	7439-97-6	E509	0.0000958 mg/L	0 mg/L	95.8	70.0	130	----
Volatile Organic Compounds (QCLot: 1638228)										
VA24C2556-001	Anonymous	Benzene	71-43-2	E611A	99.0 µg/L	100 µg/L	99.0	60.0	140	----
		Ethylbenzene	100-41-4	E611A	94.3 µg/L	100 µg/L	94.3	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	108 µg/L	100 µg/L	108	60.0	140	----
		Styrene	100-42-5	E611A	101 µg/L	100 µg/L	101	60.0	140	----
		Toluene	108-88-3	E611A	94.4 µg/L	100 µg/L	94.4	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	205 µg/L	200 µg/L	102	60.0	140	----
		Xylene, o-	95-47-6	E611A	94.6 µg/L	100 µg/L	94.6	60.0	140	----
Hydrocarbons (QCLot: 1638229)										
VA24C2977-006	Anonymous	F1 (C6-C10)	----	E581.VH+F1	3900 µg/L	6310 µg/L	61.9	60.0	140	----

Taiga Batch No.:
241348

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: 9-Sep-24
Print Date: *9-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.: 241348

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401381-002 FB-SNP431-240903 **Taiga Sample ID:** 001

Client Project:
Sample Type: Water
Received Date: 04-Sep-24
Sampling Date: 03-Sep-24
Sampling Time: 11:32
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	04-Sep-24	TEL017	

ReportDate: 9-Sep-24
Print Date: *9-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.: 241348

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401381-001 SNP431-240903 **Taiga Sample ID:** 002

Client Project:
Sample Type: Water
Received Date: 04-Sep-24
Sampling Date: 03-Sep-24
Sampling Time: 11:32
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	1	1	CFU/100mL	04-Sep-24	TEL017	

ReportDate: 9-Sep-24
Print Date: *9-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.: 241348

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401381-006 TB-240903 **Taiga Sample ID:** 003

Client Project:
Sample Type: Water
Received Date: 04-Sep-24
Sampling Date: 03-Sep-24
Sampling Time: 11:32
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	04-Sep-24	TEL017	

ReportDate: 9-Sep-24
Print Date: *9-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.: 241348

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401381-006 TB-240903 **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: 9-Sep-24
Print Date: *9-Sep-24*

Environmental Division
Yellowknife
Work Order Reference
YL2401381

Telephone : + 1 867 873 5593

Lab Copy

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

From:
COMPANY: SLR Consulting
Address: 13 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-cimac.gc.ca
mikey.a.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 Co.
13 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	Radium-226				
SNP431-240903	SNP 43-1	3-Sep-24	11:32	Water			G	15	X	X	X	X		X	X	X					
FB-SNP431-240903	SNP 43-1	3-Sep-24	11:32	Water			G	12	X	X	X	X									
SNP4311-240903	SNP 43-11	3-Sep-24	18:49	Water			G	12	X	X	X	X	X								
BCEP-240903	Baker Creek Exposure Point	3-Sep-24	19:16	Water			G	12	X	X	X	X	X								
DUP-BCEP-240903	Baker Creek Exposure Point	3-Sep-24	19:16	Water			G	12	X	X	X	X	X								
TB-240903	TRIP BLANK	3-Sep-24	-	Water			G	15	X	X	X	X	X	X	X	X					

Relinquished by (Sampler Signature): Keenan Kakfwi — T.Kakfwi
Date/Time: 2024-September-04 9:01
Company: SLR Consulting

Received by (Name): Simon Arlooktoo
Received by (Signature): [signature]
Company: ALS
SEPT 04/24

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 6.8
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	: **YL2401382**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: Saskatchewan Research Council
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife Northwest Territories Canada X1A 0G5	Address	: 143 - 111 Research Drive Saskatoon SK Canada S7N 3R2
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 04-Sep-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 25-Sep-2024
C-O-C number	: ----	Issue Date	: 15-Oct-2024 09:47
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	SNP431-240903	FB-SNP431-240903	SNP4311-240903	BCEP-240903	DUP-BCEP-240903
				Client sampling date / time	03-Sep-2024 11:32	03-Sep-2024 11:32	03-Sep-2024 18:49	03-Sep-2024 19:16	03-Sep-2024 19:16
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401382-001	YL2401382-002	YL2401382-003	YL2401382-004	YL2401382-005
					Result	Result	Result	Result	Result
Radiological Parameters									
Radium-226	13982-63-3	Ra-226/2I	0.005	Bq/L	0.01	<0.005	<0.005	<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.

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240903	----	----	----	----
				Client sampling date / time	03-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401382-006	----	----	----	----
					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	: **YL2401382**	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	: 04-Sep-2024 09:01
PO	: YEL218	Issue Date	: 15-Oct-2024 09:48
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) BCEP-240903	Ra-226	03-Sep-2024	----	----	----		26-Sep-2024	----	22 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid) DUP-BCEP-240903	Ra-226	03-Sep-2024	----	----	----		26-Sep-2024	----	22 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid) SNP4311-240903	Ra-226	03-Sep-2024	----	----	----		25-Sep-2024	----	22 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid) SNP431-240903	Ra-226	03-Sep-2024	----	----	----		25-Sep-2024	----	22 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid) FB-SNP431-240903	Ra-226	03-Sep-2024	----	----	----		26-Sep-2024	----	23 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid) TB-240903	Ra-226	03-Sep-2024	----	----	----		26-Sep-2024	----	23 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	: **YL2401382**	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	: 04-Sep-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 25-Sep-2024
C-O-C number	: ----	Issue Date	: 15-Oct-2024 09:47
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 # 2024-11375

Sep 27, 2024

ALS
314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Date Samples Received: Sep-10-2024 Client P.O.: YL2401382

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 # 2024-11375

Sep 27, 2024

ALS

314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Sample #: **2024031203**
Date Sampled: **Sep 03, 2024**
Sample Matrix: **WATER**
Description: **09/03/2024 11:32 SNP431-240903 YL01382-001**

Client PO #: **YL2401382**
Date Received: **Sep 10, 2024**

Analyte	Units	Result
Lab Section 4		
Radium-226*	Bq/L	0.01

The temperature of the cooler was 8.5 °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 # 2024-11375

Sep 27, 2024

ALS

Sample #:	**2024031204**	Client PO #:	**YL2401382**
Date Sampled:	**Sep 03, 2024**	Date Received:	**Sep 10, 2024**
Sample Matrix:	**WATER**		
Description:	**09/03/2024 11:32 FB-SNP431-240903 YL01382-002**		

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 8.5 °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 # 2024-11375

Sep 27, 2024

ALS

Sample #:	**2024031205**	Client PO #:	**YL2401382**
Date Sampled:	**Sep 03, 2024**	Date Received:	**Sep 10, 2024**
Sample Matrix:	**WATER**		
Description:	**09/03/2024 18:49 SNP4311-240903 YL01382-003**		

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 8.5 °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 # 2024-11375

Sep 27, 2024

ALS

Sample #:	**2024031206**	Client PO #:	**YL2401382**
Date Sampled:	**Sep 03, 2024**	Date Received:	**Sep 10, 2024**
Sample Matrix:	**WATER**		
Description:	**09/03/2024 19:16 BCEP-240903 YL01382-004**		

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 8.5 °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 # 2024-11375

Sep 27, 2024

ALS

Sample #:	**2024031207**	Client PO #:	**YL2401382**
Date Sampled:	**Sep 03, 2024**	Date Received:	**Sep 10, 2024**
Sample Matrix:	**WATER**		
Description:	**09/03/2024 19:16 DUP-BCEP-240903 YL01382-005**		

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 8.5 °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 # 2024-11375

Sep 27, 2024

ALS

Sample #: **2024031208**
Date Sampled: **Sep 03, 2024**
Sample Matrix: **WATER**
Description: **09/03/2024 TB-240903 YL01382-006**

Client PO #: **YL2401382**
Date Received: **Sep 10, 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 8.5 °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 # 2024-11375

Sep 27, 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@rcaanc-cirnac.gc.ca
mikayla.donovan@wsp.com
gld.GiantMine_AS@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	Radium-226						
SNP431-240903	SNP 43-1	3-Sep-24	11:32	Water			G	1									X						
FB-SNP431-240903	SNP 43-1	3-Sep-24	11:32	Water			G	1									X						
SNP4311-240903	SNP 43-11	3-Sep-24	18:49	Water			G	1									X						
BCEP-240903	Baker Creek Exposure Point	3-Sep-24	19:16	Water			G	1									X						
DUP-BCEP-240903	Baker Creek Exposure Point	3-Sep-24	19:16	Water			G	1									X						
TB-240903	TRIP BLANK	3-Sep-24	-	Water			G	1									X						

Relinquished by (Sampler Signature): Keenan Kakfwi — T.Kakfwi
Date/Time: 2024-September-04 9:01
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.)
Simon Arlooktoo	SA	SEPT 04/24	6.8	

Environmental Division
Yellowknife
Work Order Reference
YL2401382

Telephone : +1 867 873 5593

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401405**	Page	: 1 of 18
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-Sep-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 06-Sep-2024
C-O-C number	: ----	Issue Date	: 16-Sep-2024 12:26
Sampler	: Keenan Kakfwi		
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*
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Oliver Gregg	Client Services Supervisor	External Subcontracting, Yellowknife, Northwest Territories
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
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.

Workorder Comments

Sample 011: Cyanide container not received at laboratory, but requested on Chain of Custody / analytical request form; subsample cannot be obtained from other containers to meet request. The requested analysis cannot be performed.

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	SNP4312-240905	SNP435-240905	SNP4323-240905	SNP4329-240905	SNP4316-240905
				Client sampling date / time	05-Sep-2024 13:51	05-Sep-2024 14:07	05-Sep-2024 14:29	05-Sep-2024 14:46	05-Sep-2024 15:26
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-001	YL2401405-002	YL2401405-003	YL2401405-004	YL2401405-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	45.8	72.2	72.1	166	160
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	8.7	5.4
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	4.3	2.7
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	45.8	72.2	72.1	175	165
Conductivity	----	E100/VA	1.0	µS/cm	133	3470	3470	2370	844
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	51.9	1500	1470	1230	313
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	53.1	1490	1520	1230	309
pH	----	E108/VA	0.10	pH units	7.87	7.98	7.95	8.34	8.36
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	88.2	3090	3280	2210	625
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	1.4	2.4	3.7	<1.0	2.3
Turbidity	----	E121/VA	0.10	NTU	1.80	3.50	6.98	0.40	1.55
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0059	0.0109	0.0090	0.0138	0.0407
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	5.85	5.85	1.20	0.404
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	4.60	484	485	108	91.1
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.080	<0.400 DLDS	<0.400 DLDS	<0.400 DLDS	0.144
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.0058	<0.100 DLDS	<0.100 DLDS	0.592	<0.0250 DLDS
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.0058	<0.102	<0.102	0.592	<0.0255
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	<0.0200 DLDS	<0.0200 DLDS	<0.0200 DLDS	<0.0050 DLDS
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0075	0.0149	0.0265	----	0.0699
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	1.42 SFT	0.93	1.10	7.94	3.05 SFT
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	12.0	1180	1180	1090	120
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	5.40	8.68 RRV	9.67	6.49	30.1
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	4.82	7.24 RRV	8.26	6.24	32.3
Ion Balance									

Analytical Results

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

				Client sample ID	SNP4312-240905	SNP435-240905	SNP4323-240905	SNP4329-240905	SNP4316-240905
				Client sampling date / time	05-Sep-2024 13:51	05-Sep-2024 14:07	05-Sep-2024 14:29	05-Sep-2024 14:46	05-Sep-2024 15:26
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-001	YL2401405-002	YL2401405-003	YL2401405-004	YL2401405-005
					Result	Result	Result	Result	Result
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	1.30	39.7	39.8	29.3	8.38
Cation sum	----	EC101/VA	0.10	meq/L	1.28	38.7	38.2	28.4	8.43
Ion balance (APHA)	----	EC101/VA	0.01	%	-0.78	-1.28	-2.05	-1.56	0.30
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0778	0.0870	0.235	<0.0060 DLA	0.0377
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00028	0.0705	0.0806	0.112	0.00375
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00452	0.101	0.146	3.82	0.146
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0204	0.104	0.106	0.0266	0.0579
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.011	0.259	0.258	0.185	0.024
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000056	0.0000412	0.0000456	0.0000408	<0.0000050
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	14.3	418	427	278	63.1
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	0.000054	0.000065	0.000036	<0.000010
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00014	0.00023	0.00036	<0.00020 DLA	0.00021
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	0.00202	0.00202	0.00866	0.00040
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00126	0.00379	0.00565	0.0193	<0.00050
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.062	0.301	0.538	<0.020 DLA	0.211
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000057	0.000666	0.00221	<0.000100 DLA	0.000065
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0029	0.0306	0.0318	0.0314	0.0166
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	4.22	109	110	131	36.7
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00588	0.162	0.282	0.00991	0.0664
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	0.000343	0.00529	0.00552	0.0212	0.000406
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00067	0.00970	0.0115	0.0114	0.00164
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.100 DLA	<0.100 DLA	<0.100 DLA	0.057
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	1.34	14.2	14.2	10.4	6.80
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00183	0.0122	0.0130	0.00472	0.00424
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000090	0.000159	0.000151	0.000668	0.000068

Analytical Results

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

				Client sample ID	SNP4312-240905	SNP435-240905	SNP4323-240905	SNP4329-240905	SNP4316-240905
				Client sampling date / time	05-Sep-2024 13:51	05-Sep-2024 14:07	05-Sep-2024 14:29	05-Sep-2024 14:46	05-Sep-2024 15:26
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-001	YL2401405-002	YL2401405-003	YL2401405-004	YL2401405-005
					Result	Result	Result	Result	Result
Total Metals									
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	0.91	0.68	1.13	4.10	1.71
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	0.000028	0.000023	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	4.80	201	200	82.5	46.1
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0726	3.84	3.95	1.17	0.293
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	4.07	441	451	394	44.7
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	0.00056	0.00041	<0.00040 DLA	<0.00020
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00204	<0.00420 DLM	<0.00930 DLM	<0.00060 DLA	0.00153
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000291	0.00230	0.00215	0.00845	0.00123
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00100 DLA	0.00177	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	0.0141	0.0127	0.0205	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0148	0.0025 DLA	0.0038 DLA	0.0028 DLA	0.0063
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00026	0.0712 DLA	0.0792 DLA	0.117 DLA	0.00370
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.00397	0.0589 DLA	0.0697 DLA	3.65 DLA	0.135
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0193	0.0996 DLA	0.0977 DLA	0.0266 DLA	0.0570
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000100
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000050
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	<0.010	0.326 DLA	0.330 DLA	0.216 DLA	0.024
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	0.0000368 DLA	0.0000379 DLA	0.0000438 DLA	<0.0000050
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	13.9	431 DLA	420 DLA	281 DLA	64.2
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	0.000037 DLA	0.000030 DLA	0.000033 DLA	<0.000010
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	0.00014
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	<0.00050
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00010	0.00180 DLA	0.00168 DLA	0.00819 DLA	0.00037
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00111	0.00276 DLA	0.00253 DLA	0.0178 DLA	<0.00020

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4312-240905	SNP435-240905	SNP4323-240905	SNP4329-240905	SNP4316-240905
				Client sampling date / time	05-Sep-2024 13:51	05-Sep-2024 14:07	05-Sep-2024 14:29	05-Sep-2024 14:46	05-Sep-2024 15:26
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-001	YL2401405-002	YL2401405-003	YL2401405-004	YL2401405-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	<0.010	0.058 DLA	0.042 DLA	<0.020 DLA	0.117
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	0.000196 DLA	<0.000100 DLA	<0.000050
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0027	0.0300 DLA	0.0293 DLA	0.0289 DLA	0.0156
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	4.18	102 DLA	102 DLA	128 DLA	37.0
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00136	0.147 DLA	0.249 DLA	0.00886 DLA	0.0598
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	0.000365	0.00527 DLA	0.00549 DLA	0.0218 DLA	0.000429
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00055	0.00889 DLA	0.0101 DLA	0.0105 DLA	0.00149
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.100 DLA	<0.100 DLA	<0.100 DLA	<0.050
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	1.23	12.4 DLA	12.7 DLA	9.69 DLA	6.34
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00176	0.0110 DLA	0.0105 DLA	0.00452 DLA	0.00386
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000082	0.000124 DLA	0.000108 DLA	0.000580 DLA	0.000110
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	0.737	0.465 DLA	0.549 DLA	3.89 DLA	1.47
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	4.91	196 DLA	195 DLA	82.6 DLA	46.3
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.0727	3.92 DLA	3.91 DLA	1.15 DLA	0.290
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	3.84	440 DLA	435 DLA	379 DLA	42.7
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	0.00041	<0.00060 DLA	<0.00060 DLA	<0.00060 DLA	<0.00060 DLM
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.000258	0.00211 DLA	0.00196 DLA	0.00798 DLA	0.00116
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00100 DLA	0.00156 DLA	<0.00050
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	0.0113 DLA	0.0077 DLA	0.0181 DLA	0.0012
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00040 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]									

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4312-240905	SNP435-240905	SNP4323-240905	SNP4329-240905	SNP4316-240905
				Client sampling date / time	05-Sep-2024 13:51	05-Sep-2024 14:07	05-Sep-2024 14:29	05-Sep-2024 14:46	05-Sep-2024 15:26
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-001	YL2401405-002	YL2401405-003	YL2401405-004	YL2401405-005
					Result	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	%	92.1	92.2	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	96.0	78.1	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	92.7	82.6	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	92.1	99.2	----	----	----

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	SNP4332-240905	DUP-SNP4332-240905	SNP4331-240905	TRCK-240905	SNP4330-240905
				Client sampling date / time	05-Sep-2024 15:39	05-Sep-2024 15:39	05-Sep-2024 16:09	05-Sep-2024 16:20	05-Sep-2024 16:33
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-006	YL2401405-007	YL2401405-008	YL2401405-009	YL2401405-010
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	96.4	96.6	86.0	159	128
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	<1.0	7.5	5.0
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	3.7	2.5
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	96.4	96.6	86.0	167	134
Conductivity	----	E100/VA	1.0	µS/cm	4170	4110	1780	916	1750
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1910	1970	1000	361	769
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1960	1970	1020	363	812
pH	----	E108/VA	0.10	pH units	8.11	8.12	8.12	8.38	8.32
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	3940	4100	1700	735	1470
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	5.5	2.4	1.2	2.3	<1.0
Turbidity	----	E121/VA	0.10	NTU	1.36	1.33	0.93	2.52	0.40
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0145	0.0154	0.0186	0.0302	0.0180
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	6.36	6.36	<0.500 DLDS	0.925	1.10
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	535	536	5.82	95.0	121
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.400 DLDS	<0.400 DLDS	<0.200 DLDS	0.104	<0.200 DLDS
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.100 DLDS	<0.100 DLDS	<0.0500 DLDS	<0.0250 DLDS	<0.0500 DLDS
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.102	<0.102	<0.0510	<0.0255	<0.0510
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0200 DLDS	<0.0200 DLDS	<0.0100 DLDS	<0.0050 DLDS	<0.0100 DLDS
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	----	----	----	0.0392	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	5.73	5.72	6.20	4.76 SFT	15.8 SFT
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	1610	1620	986	160	655
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	11.7	13.6	12.4	25.9	14.2
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	12.4	11.9	12.2	26.4	13.5
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	50.6	50.8	22.4	9.36	19.7

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4332-240905	DUP-SNP4332-240905	SNP4331-240905	TRCK-240905	SNP4330-240905
				Client sampling date / time	05-Sep-2024 15:39	05-Sep-2024 15:39	05-Sep-2024 16:09	05-Sep-2024 16:20	05-Sep-2024 16:33
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-006	YL2401405-007	YL2401405-008	YL2401405-009	YL2401405-010
					Result	Result	Result	Result	Result
Ion Balance									
Cation sum	----	EC101/VA	0.10	meq/L	47.7	49.2	20.8	9.32	18.7
Ion balance (APHA)	----	EC101/VA	0.01	%	-2.95	-1.60	-3.70	-0.21	-2.60
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0143	<0.0060 DLA	<0.0150 DLA	0.0802	<0.0030
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.518	0.518	0.127	0.00413	0.0340
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	2.45	2.48	5.78	0.119	0.501
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0394	0.0398	0.0194	0.0445	0.0243
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000250 DLA	<0.000050	<0.000050
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.337	0.335	0.055	0.032	0.190
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.000184	0.000185	<0.0000250 DLA	<0.0000050	<0.0000050
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	544	543	275	75.8	186
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000092	0.000097	<0.000050 DLA	<0.000010	<0.000010
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	0.00015	<0.00010
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00250 DLA	<0.00050	<0.00050
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00746	0.00747	0.00098	0.00224	0.00229
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.0184	0.0187	0.00567	<0.00050	0.00395
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.068	0.064	0.123	0.102	0.071
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000116	0.000110	0.000265	0.000052	<0.000050
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0184	0.0184	0.0110	0.0155	0.0361
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	146	150	81.7	42.1	84.5
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0852	0.0858	0.0117	0.0405	0.0329
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	0.0218	0.0221	0.00229	0.000564	0.00441
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.0310	0.0306	0.0207	0.00076	0.00719
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.100 DLA	<0.100 DLA	<0.250 DLA	<0.050	<0.050
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	22.0	22.0	6.84	6.51	11.5
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00810	0.00815	0.00399	0.00346	0.00402
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000906	0.000728	0.000340	0.000064	0.000226
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	2.98	2.99	3.03	2.69	8.42

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: SNP4332-240905	DUP-SNP4332-240905	SNP4331-240905	TRCK-240905	SNP4330-240905
				Client sampling date / time	05-Sep-2024 15:39	05-Sep-2024 15:39	05-Sep-2024 16:09	05-Sep-2024 16:20	05-Sep-2024 16:33
					YL2401405-006	YL2401405-007	YL2401405-008	YL2401405-009	YL2401405-010
					Result	Result	Result	Result	Result
Total Metals									
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000105	0.000093	<0.000050 DLA	<0.000010	<0.000010
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	220	220	12.7	44.7	71.1
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	3.52	3.50	0.481	0.400	1.04
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	603	611	343	60.7	247
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	<0.00100 DLA	<0.00020	<0.00020
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000042	0.000039	<0.000050 DLA	<0.000010	<0.000010
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	<0.00010	<0.00010
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	<0.00010	<0.00010
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00060 DLA	<0.00060 DLA	<0.00150 DLA	<0.00270 DLM	<0.00030
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00024	0.00024	<0.00050 DLA	<0.00010	0.00010
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00341	0.00348	0.00182	0.000938	0.00278
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00250 DLA	0.00062	<0.00050
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0270	0.0260	<0.0150 DLA	<0.0030	<0.0030
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	<0.00100 DLA	<0.00020	<0.00020
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0026 DLA	0.0031 DLA	<0.0050 DLA	0.0087	0.0018
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.532 DLA	0.522 DLA	0.128 DLA	0.00419	0.0331
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	2.25 DLA	2.24 DLA	5.38 DLA	0.114	0.476
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0372 DLA	0.0384 DLA	0.0183 DLA	0.0446	0.0235
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000100	<0.000100
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000250 DLA	<0.000050	<0.000050
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.419 DLA	0.437 DLA	0.056 DLA	0.033	0.235
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.000175 DLA	0.000177 DLA	<0.0000250 DLA	<0.0000050	<0.0000050
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	539 DLA	557 DLA	278 DLA	75.8	177
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000088 DLA	0.000087 DLA	<0.000050 DLA	<0.000010	<0.000010
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	<0.00010	<0.00010
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00250 DLA	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00698 DLA	0.00689 DLA	0.00083 DLA	0.00207	0.00217
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.0161 DLA	0.0165 DLA	0.00452 DLA	<0.00020	0.00361
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	<0.020 DLA	<0.020 DLA	0.081 DLA	0.032	0.039

Analytical Results

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

				Client sample ID	SNP4332-240905	DUP-SNP4332-240905	SNP4331-240905	TRCK-240905	SNP4330-240905
				Client sampling date / time	05-Sep-2024 15:39	05-Sep-2024 15:39	05-Sep-2024 16:09	05-Sep-2024 16:20	05-Sep-2024 16:33
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-006	YL2401405-007	YL2401405-008	YL2401405-009	YL2401405-010
					Result	Result	Result	Result	Result
Dissolved Metals									
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000250 DLA	<0.000050	<0.000050
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0173 DLA	0.0177 DLA	0.0106 DLA	0.0141	0.0339
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	137 DLA	141 DLA	75.7 DLA	41.8	79.4
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.0668 DLA	0.0684 DLA	0.0107 DLA	0.0347	0.0294
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	0.0228 DLA	0.0222 DLA	0.00229 DLA	0.000579	0.00435
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.0278 DLA	0.0284 DLA	0.0186 DLA	0.00066	0.00673
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.100 DLA	<0.100 DLA	<0.250 DLA	<0.050	<0.050
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	19.7 DLA	20.7 DLA	6.11 DLA	5.90	10.4
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00697 DLA	0.00739 DLA	0.00326 DLA	0.00296	0.00386
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000708 DLA	0.000727 DLA	<0.000250 DLA	0.000061	0.000240
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	2.88 DLA	2.93 DLA	2.90 DLA	2.36	7.61
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	0.000053 DLA	0.000055 DLA	<0.000050 DLA	<0.000010	<0.000010
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	208 DLA	214 DLA	12.5 DLA	44.6	71.0
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	3.47 DLA	3.46 DLA	0.483 DLA	0.408	0.986
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	585 DLA	580 DLA	338 DLA	56.8	236
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	<0.00100 DLA	<0.00020	<0.00020
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	0.000036 DLA	0.000039 DLA	<0.000050 DLA	<0.000010	<0.000010
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	<0.00010	<0.00010
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	<0.00010	<0.00010
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00060 DLA	<0.00060 DLA	<0.00150 DLA	0.00048	<0.00030
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00023 DLA	0.00021 DLA	<0.00050 DLA	<0.00010	0.00011
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00325 DLA	0.00322 DLA	0.00175 DLA	0.000873	0.00254
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00250 DLA	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0204 DLA	0.0218 DLA	<0.0050 DLA	<0.0010	<0.0010
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00040 DLA	<0.00100 DLA	<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

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-240905	----	----	----	----
				Client sampling date / time	05-Sep-2024 17:07	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-011	--------	--------	--------	--------
					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	3130	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1280	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1260	----	----	----	----
pH	----	E108/VA	0.10	pH units	8.28	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	2760	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	1.2	----	----	----	----
Turbidity	----	E121/VA	0.10	NTU	1.04	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.848	----	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	5.88	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	474	----	----	----	----
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	0.477	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.516	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0388	----	----	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	11.9	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	839	----	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	7.50	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	7.55	----	----	----	----
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	FC-MF/1Y	1.0	CFU/100mL	<1.0	----	----	----	----
Ion Balance									

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP4321A-240905	----	----	----	----
				Client sampling date / time	05-Sep-2024 17:07	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-011	--------	--------	--------	--------
					Result	----	----	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	34.7	----	----	----	----
Cation sum	----	EC101/VA	0.10	meq/L	34.1	----	----	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-0.87	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	<0.0300 DLA	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.646	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	23.6	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0511	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000200 DLA	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000500 DLA	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.322	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.000268	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	347	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000730	----	----	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00100 DLA	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00500 DLA	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.0387	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00500 DLA	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.269	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.00366	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0322	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	96.9	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.533	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0180	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.0440	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.500 DLA	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	12.5	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.0109	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000500 DLA	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	SNP4321A-240905	----	----	----	----
					Client sampling date / time	05-Sep-2024 17:07	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401405-011	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		5.84	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000100 DLA	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		188	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		4.55	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		292	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00200 DLA	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000100 DLA	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00100 DLA	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00100 DLA	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00300 DLA	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00100 DLA	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.00609	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00500 DLA	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0554	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00200 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		0.633 DLA	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L		21.9 DLA	----	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L		0.0496 DLA	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L		<0.000400 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		0.379 DLA	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L		0.000172 DLA	----	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		357 DLA	----	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L		0.000669 DLA	----	----	----	----
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		0.0365 DLA	----	----	----	----
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-240905	----	----	----	----
					Client sampling date / time	05-Sep-2024 17:07	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401405-011	--------	--------	--------	--------
						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		0.00302 DLA	----	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L		0.0324 DLA	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		95.8 DLA	----	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L		0.489 DLA	----	----	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L		0.0181 DLA	----	----	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L		0.0420 DLA	----	----	----	----
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		11.2 DLA	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		0.00978 DLA	----	----	----	----
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		5.83 DLA	----	----	----	----
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		184 DLA	----	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		4.63 DLA	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L		278 DLA	----	----	----	----
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		0.00567 DLA	----	----	----	----
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		0.0471 DLA	----	----	----	----
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-240905	----	----	----	----
				Client sampling date / time	05-Sep-2024 17:07	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401405-011	--------	--------	--------	--------
					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	%	97.9	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	90.7	----	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	86.3	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	99.0	----	----	----	----

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

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401405**	Page	: 1 of 39
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-Sep-2024 09:01
PO	: YEL218	Issue Date	: 16-Sep-2024 12:27
C-O-C number	: ----		
Sampler	: Keenan Kakfwi		
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-SNP4332-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4312-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4316-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4321A-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4323-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4329-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4330-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-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 : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4331-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4332-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP435-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TRCK-240905	E298	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE DUP-SNP4332-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4312-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4316-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4321A-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4323-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4329-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4330-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4331-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4332-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP435-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE TRCK-240905	E235.Br-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP-SNP4332-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4312-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4316-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4321A-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4323-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4329-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4330-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4331-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4332-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP435-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TRCK-240905	E235.Cl	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-SNP4332-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4312-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4316-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4321A-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4323-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4329-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4330-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4331-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4332-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP435-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE TRCK-240905	E235.F	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE DUP-SNP4332-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4312-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4316-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4321A-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4323-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4329-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4330-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4331-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4332-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	× EHT	10-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP435-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	× EHT	10-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE TRCK-240905	E235.NO3-L	05-Sep-2024	10-Sep-2024	3 days	5 days	× EHT	10-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE DUP-SNP4332-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	× EHT	10-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4312-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	× EHT	10-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4316-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	× EHT	10-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4321A-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	× EHT	10-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4323-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	× EHT	10-Sep-2024	3 days	5 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4329-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	× EHT	10-Sep-2024	3 days	5 days	× EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: 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										
SNP4330-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP4331-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP4332-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP435-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
TRCK-240905	E235.NO2-L	05-Sep-2024	10-Sep-2024	3 days	5 days	✗ EHT	10-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
DUP-SNP4332-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP4312-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP4316-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SNP4321A-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4323-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4329-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4330-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4331-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4332-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP435-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TRCK-240905	E392	05-Sep-2024	----	----	----		11-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE DUP-SNP4332-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4312-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4316-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4321A-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4323-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4329-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4330-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4331-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4332-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP435-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TRCK-240905	E235.SO4	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	10-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
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4312-240905	E372-U	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4316-240905	E372-U	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4323-240905	E372-U	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP435-240905	E372-U	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) TRCK-240905	E372-U	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	12-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) DUP-SNP4332-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	12-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4312-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	12-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4316-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	12-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4329-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	12-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				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) SNP4330-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	12-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4331-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	12-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP435-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	12-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TRCK-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	12-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4321A-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4323-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4332-240905	E421.Cr-L	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-SNP4332-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4312-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-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
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4316-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4321A-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4323-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4329-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4330-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4331-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4332-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP435-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) TRCK-240905	E509	05-Sep-2024	12-Sep-2024	28 days	7 days	✓	12-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
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) DUP-SNP4332-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4312-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4316-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4321A-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4323-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4329-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4330-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4331-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4332-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-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) SNP435-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TRCK-240905	E421	05-Sep-2024	12-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP4312-240905	E601	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP4321A-240905	E601	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP435-240905	E601	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	40 days	1 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP4321A-240905	E581.VH+F1	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	5 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP4312-240905	E581.VH+F1	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP435-240905	E581.VH+F1	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) SNP4321A-240905	FC-MF	05-Sep-2024	----	----	----		06-Sep-2024	30 hrs	16 hrs	✓

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 : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) DUP-SNP4332-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4312-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4316-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4321A-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4323-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4329-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4330-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4331-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4332-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-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 : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SNP435-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
TRCK-240905	E358-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
DUP-SNP4332-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4312-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4316-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4321A-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4323-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4329-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
SNP4330-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4331-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4332-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP435-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) TRCK-240905	E355-L	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-SNP4332-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4312-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4316-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4321A-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4323-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-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 SNP4329-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4330-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4331-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4332-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP435-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TRCK-240905	E290	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-SNP4332-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4312-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4316-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-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
Physical Tests : Conductivity in Water										
HDPE SNP4321A-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4323-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4329-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4330-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4331-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4332-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP435-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE TRCK-240905	E100	05-Sep-2024	10-Sep-2024	28 days	5 days	✓	11-Sep-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE SNP4321A-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	115 hrs	✗ EHTR-FM	11-Sep-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 SNP4330-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	115 hrs	✘ EHTR-FM	11-Sep-2024	0.25 hrs	140 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE TRCK-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	115 hrs	✘ EHTR-FM	11-Sep-2024	0.25 hrs	140 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4331-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	116 hrs	✘ EHTR-FM	11-Sep-2024	0.25 hrs	140 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-SNP4332-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	116 hrs	✘ EHTR-FM	11-Sep-2024	0.25 hrs	141 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4316-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	116 hrs	✘ EHTR-FM	11-Sep-2024	0.25 hrs	141 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4332-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	116 hrs	✘ EHTR-FM	11-Sep-2024	0.25 hrs	141 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4329-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	117 hrs	✘ EHTR-FM	11-Sep-2024	0.25 hrs	141 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4323-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	117 hrs	✘ EHTR-FM	11-Sep-2024	0.25 hrs	142 hrs	✘ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4312-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	118 hrs	✘ EHTR-FM	11-Sep-2024	0.25 hrs	142 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 SNP435-240905	E108	05-Sep-2024	10-Sep-2024	0.25 hrs	118 hrs	✗ EHTR-FM	11-Sep-2024	0.25 hrs	142 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE DUP-SNP4332-240905	E162-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4312-240905	E162-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4316-240905	E162-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4321A-240905	E162-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4323-240905	E162-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4329-240905	E162-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4330-240905	E162-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4331-240905	E162-L	05-Sep-2024	----	----	----		12-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: 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										
SNP4332-240905	E162-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
SNP435-240905	E162-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
TRCK-240905	E162-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
DUP-SNP4332-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP4312-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP4316-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP4321A-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP4323-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP4329-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4330-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4331-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4332-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP435-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] TRCK-240905	E160-L	05-Sep-2024	----	----	----		12-Sep-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-SNP4332-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4312-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4316-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4321A-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: 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										
SNP4323-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
SNP4329-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
SNP4330-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
SNP4331-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
SNP4332-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
SNP435-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
TRCK-240905	E121	05-Sep-2024	----	----	----		10-Sep-2024	3 days	5 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved)										
DUP-SNP4332-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved)										
SNP4312-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-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) SNP4316-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4321A-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4323-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4329-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4330-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4331-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4332-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP435-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TRCK-240905	E420.Cr-L	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	11-Sep-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-SNP4332-240905	E508	05-Sep-2024	13-Sep-2024	28 days	7 days	✓	13-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4316-240905	E508	05-Sep-2024	13-Sep-2024	28 days	7 days	✓	13-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4321A-240905	E508	05-Sep-2024	13-Sep-2024	28 days	7 days	✓	13-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4323-240905	E508	05-Sep-2024	13-Sep-2024	28 days	7 days	✓	13-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4329-240905	E508	05-Sep-2024	13-Sep-2024	28 days	7 days	✓	13-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4330-240905	E508	05-Sep-2024	13-Sep-2024	28 days	7 days	✓	13-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4331-240905	E508	05-Sep-2024	13-Sep-2024	28 days	7 days	✓	13-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4332-240905	E508	05-Sep-2024	13-Sep-2024	28 days	7 days	✓	13-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) TRCK-240905	E508	05-Sep-2024	13-Sep-2024	28 days	7 days	✓	13-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
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4312-240905	E508	05-Sep-2024	13-Sep-2024	28 days	8 days	✓	13-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP435-240905	E508	05-Sep-2024	13-Sep-2024	28 days	8 days	✓	13-Sep-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) DUP-SNP4332-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4312-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4316-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4321A-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4323-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4329-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4330-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-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				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) SNP4331-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4332-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP435-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TRCK-240905	E420	05-Sep-2024	11-Sep-2024	180 days	6 days	✓	12-Sep-2024	180 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP4321A-240905	E611A	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	5 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP4312-240905	E611A	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP435-240905	E611A	05-Sep-2024	10-Sep-2024	14 days	5 days	✓	11-Sep-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	1642427	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	1642745	1	11	9.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1642434	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1642907	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1642429	1	18	5.5	5.0	✓
Conductivity in Water	E100	1642428	1	16	6.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1642485	1	17	5.8	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1647317	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1642486	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1642743	1	11	9.0	5.0	✓
Fluoride in Water by IC	E235.F	1642433	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1642430	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1642431	1	18	5.5	5.0	✓
pH by Meter	E108	1642426	1	16	6.2	5.0	✓
Reactive Silica by Colourimetry	E392	1645199	2	22	9.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1642432	1	18	5.5	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1647550	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1643311	1	18	5.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1648956	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1643312	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1642744	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1642742	1	15	6.6	5.0	✓
Turbidity by Nephelometry	E121	1643850	2	25	8.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1642906	1	13	7.6	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1642427	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	1642745	1	11	9.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1642434	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1642907	1	8	12.5	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1642777	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1642429	1	18	5.5	5.0	✓
Conductivity in Water	E100	1642428	1	16	6.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1642485	1	17	5.8	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1647317	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1642486	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1642743	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							
Fluoride in Water by IC	E235.F	1642433	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1642430	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1642431	1	18	5.5	5.0	✓
pH by Meter	E108	1642426	1	16	6.2	5.0	✓
Reactive Silica by Colourimetry	E392	1645199	2	22	9.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1642432	1	18	5.5	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1647550	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1643311	1	18	5.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1648956	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1643312	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1642744	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1642742	1	15	6.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1647544	1	11	9.0	5.0	✓
Turbidity by Nephelometry	E121	1643850	2	25	8.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1642906	1	13	7.6	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1642427	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	1642745	1	11	9.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1642434	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1642907	1	8	12.5	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1642777	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1642429	1	18	5.5	5.0	✓
Conductivity in Water	E100	1642428	1	16	6.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1642485	1	17	5.8	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1647317	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1642486	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1642743	1	11	9.0	5.0	✓
Fluoride in Water by IC	E235.F	1642433	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1642430	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1642431	1	18	5.5	5.0	✓
Reactive Silica by Colourimetry	E392	1645199	2	22	9.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1642432	1	18	5.5	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1647550	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1643311	1	18	5.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1648956	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1643312	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1642744	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1642742	1	15	6.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1647544	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*
Method Blanks (MB) - Continued							
Turbidity by Nephelometry	E121	1643850	2	25	8.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1642906	1	13	7.6	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1642745	1	11	9.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1642434	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1642907	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1642429	1	18	5.5	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1642485	1	17	5.8	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1647317	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1642486	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1642743	1	11	9.0	5.0	✓
Fluoride in Water by IC	E235.F	1642433	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1642430	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1642431	1	18	5.5	5.0	✓
Reactive Silica by Colourimetry	E392	1645199	2	22	9.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1642432	1	18	5.5	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1643311	1	18	5.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1648956	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1643312	2	20	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1642744	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1642742	1	15	6.6	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1642906	1	13	7.6	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
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.
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 Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
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	: **YL2401405**	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	: 06-Sep-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 06-Sep-2024
C-O-C number	: ----	Issue Date	: 16-Sep-2024 12:27
Sampler	: Keenan Kakfwi		
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*
Dan Gebert	Laboratory Analyst	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Vancouver Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Oliver Gregg	Client Services Supervisor	Taiga Environmental Laboratory External Subcontracting, Yellowknife, Northwest Territories
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: 1642426)											
KS2403645-003	Anonymous	pH	----	E108	0.10	pH units	5.20	5.21	0.192%	4%	----
Physical Tests (QC Lot: 1642427)											
KS2403645-003	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: 1642428)											
KS2403645-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	<2.0	<2.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1643850)											
FJ2402695-001	Anonymous	Turbidity	----	E121	0.10	NTU	4.64	4.52	2.62%	15%	----
Physical Tests (QC Lot: 1643851)											
YL2401405-007	DUP-SNP4332-240905	Turbidity	----	E121	0.10	NTU	1.33	1.32	0.01	Diff <2x LOR	----
Physical Tests (QC Lot: 1647550)											
YL2401405-001	SNP4312-240905	Solids, total dissolved [TDS]	----	E162-L	10.0	mg/L	88.2	86.5	1.7	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1642429)											
VA24C3452-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	1.03	1.05	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1642430)											
VA24C3452-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0141	0.0126	0.0015	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1642431)											
VA24C3452-001	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: 1642432)											
VA24C3452-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	2.63	2.64	0.005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1642433)											
VA24C3452-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1642434)											
VA24C3452-001	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: 1642742)											
VA24C3431-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0046	0.0044	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: 1642745)											
YL2401405-003	SNP4323-240905	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0090	0.0088	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1645199)											
VA24C3430-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1645200)											
YL2401405-010	SNP4330-240905	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	15.8	15.8	0.256%	20%	----
Organic / Inorganic Carbon (QC Lot: 1642743)											
YL2401405-001	SNP4312-240905	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	5.40	5.74	6.10%	20%	----
Organic / Inorganic Carbon (QC Lot: 1642744)											
YL2401405-001	SNP4312-240905	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	4.82	4.92	0.10	Diff <2x LOR	----
Total Metals (QC Lot: 1643311)											
VA24C3046-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	<0.00010	0.00015	0.00005	Diff <2x LOR	----
Total Metals (QC Lot: 1643312)											
VA24C3046-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0180	0.0189	0.0009	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00011	0.00012	0.000008	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0164	0.0158	3.68%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000056	<0.0000050	0.0000006	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	16.2	16.1	0.548%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000015	0.000014	0.0000004	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.014	0.014	0.0002	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	3.64	3.63	0.508%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00159	0.00155	2.72%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000608	0.000605	0.513%	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	0.639	0.637	0.358%	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: 1643312) - continued											
VA24C3046-001	Anonymous	Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00128	0.00132	0.00003	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000092	0.000095	0.000003	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	0.44	0.42	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	0.711	0.707	0.581%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.111	0.111	0.151%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	3.30	3.48	0.18	Diff <2x LOR	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.00055	0.00050	0.00004	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	0.000417	0.000412	1.12%	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: 1648956)											
VA24C3862-005	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1642485)											
VA24C3206-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1642486)											
VA24C3206-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0020	mg/L	0.0099	0.0083	0.0016	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00020	mg/L	0.00092	0.00077	0.00015	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00020	mg/L	0.0202	0.0205	1.51%	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	<0.020	<0.020	0	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000100	mg/L	0.0000317	0.0000309	0.0000008	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.100	mg/L	36.2	36.2	0.174%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		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	<0.00020	<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
Dissolved Metals (QC Lot: 1642486) - continued											
VA24C3206-001	Anonymous	Copper, dissolved	7440-50-8	E421	0.00040	mg/L	0.00283	0.00276	0.00006	Diff <2x LOR	----
		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	<0.0020	<0.0020	0	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	22.0	22.1	0.322%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00020	mg/L	0.0194	0.0189	2.55%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000100	mg/L	0.00271	0.00272	0.358%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00100	mg/L	0.00509	0.00530	0.00020	Diff <2x LOR	----
		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	2.91	2.87	1.46%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00040	mg/L	0.00205	0.00222	0.00017	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.100	mg/L	9.39	9.28	1.24%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.100	mg/L	22.0	21.8	0.754%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00040	mg/L	0.220	0.221	0.432%	20%	----
		Sulfur, dissolved	7704-34-9	E421	1.00	mg/L	454	446	1.73%	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	<0.000020	<0.000020	0	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	<0.00020	<0.00020	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000020	mg/L	0.000636	0.000638	0.413%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00100	mg/L	0.00178	0.00180	0.00002	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0020	mg/L	0.0026	0.0030	0.0004	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00040	mg/L	0.00850	0.00858	1.00%	20%	----
Dissolved Metals (QC Lot: 1647317)											
VA24C3114-005	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1647318)											
YL2401405-007	DUP-SNP4332-240905	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1642907)											
YL2401395-001	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	----

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
Volatile Organic Compounds (QC Lot: 1642907) - continued											
YL2401395-001	Anonymous	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: 1642906)											
VA24C3438-001	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: 1642427)						
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: 1642428)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1643850)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1643851)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1647544)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1647550)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1642429)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1642430)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1642431)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1642432)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1642433)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1642434)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1642742)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1642745)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1645199)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1645199) - continued						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1645200)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1642743)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1642744)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1643311)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1643312)						
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: 1643312) - 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: 1648956)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1642485)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1642486)						
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: 1642486) - 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: 1647317)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1647318)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1642907)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1642777)						
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: 1642906)						
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: 1642426)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1642427)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	102	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1642428)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	101	90.0	110	----
Physical Tests (QCLot: 1643850)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1643851)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1647544)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	98.5	85.0	115	----
Physical Tests (QCLot: 1647550)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	105	85.0	115	----
Anions and Nutrients (QCLot: 1642429)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1642430)									
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: 1642431)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1642432)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1642433)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1642434)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	105	85.0	115	----
Anions and Nutrients (QCLot: 1642742)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	95.7	80.0	120	----
Anions and Nutrients (QCLot: 1642745)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1645199)									

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: 1645199) - continued									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	94.8	85.0	115	----
Anions and Nutrients (QCLot: 1645200)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	94.8	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1642743)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	95.9	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1642744)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Total Metals (QCLot: 1643311)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	99.8	80.0	120	----
Total Metals (QCLot: 1643312)									
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	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	105	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	98.1	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	90.9	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	103	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	96.5	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	99.5	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.8	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	99.7	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	96.7	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	99.9	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	98.7	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	101	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	100	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	110	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	108	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	100	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1643312) - continued									
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	108	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	93.3	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	100	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	104	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	96.6	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	103	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	103	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.0	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.8	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	99.4	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	101	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	103	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Total Metals (QCLot: 1648956)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	96.0	80.0	120	----
Dissolved Metals (QCLot: 1642485)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	96.8	80.0	120	----
Dissolved Metals (QCLot: 1642486)									
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	103	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	102	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	97.3	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	104	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	97.4	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	99.7	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	96.8	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	96.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	95.2	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	95.5	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 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: 1642486) - continued									
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	99.8	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	99.1	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	105	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	96.2	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	104	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	105	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	99.2	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	97.7	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	107	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	95.5	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	110	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	103	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	90.2	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.3	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	98.3	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	97.5	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	93.5	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	97.9	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	100	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	99.9	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	95.8	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	94.7	80.0	120	----
Volatile Organic Compounds (QCLot: 1642907)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	80.7	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	78.1	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	81.2	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	82.8	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	79.0	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	81.2	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	79.0	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: 1642777)									
F2 (C10-C16)	----	E601	100	µg/L	4250 µg/L	112	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	8460 µg/L	102	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	6060 µg/L	106	70.0	130	----
Hydrocarbons (QCLot: 1642906)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	97.1	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: 1642429)										
VA24C3452-002	Anonymous	Chloride	16887-00-6	E235.Cl	98.5 mg/L	100 mg/L	98.5	75.0	125	----
Anions and Nutrients (QCLot: 1642430)										
VA24C3452-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.44 mg/L	2.5 mg/L	97.5	75.0	125	----
Anions and Nutrients (QCLot: 1642431)										
VA24C3452-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.496 mg/L	0.5 mg/L	99.2	75.0	125	----
Anions and Nutrients (QCLot: 1642432)										
VA24C3452-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	99.4 mg/L	100 mg/L	99.4	75.0	125	----
Anions and Nutrients (QCLot: 1642433)										
VA24C3452-002	Anonymous	Fluoride	16984-48-8	E235.F	0.998 mg/L	1 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1642434)										
VA24C3452-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.508 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1642742)										
VA24C3431-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0537 mg/L	0.05 mg/L	107	70.0	130	----
Anions and Nutrients (QCLot: 1642745)										
YL2401405-004	SNP4329-240905	Ammonia, total (as N)	7664-41-7	E298	0.102 mg/L	0.1 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1645199)										
VA24C3430-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.1 mg/L	10 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1645200)										
YL2401405-011	SNP4321A-240905	Silicate (as SiO2)	7631-86-9	E392	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1642743)										
YL2401405-002	SNP435-240905	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1642744)										
YL2401405-002	SNP435-240905	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1643311)										
VA24C3304-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0380 mg/L	0.04 mg/L	95.0	70.0	130	----
Total Metals (QCLot: 1643312)										
VA24C3304-001	Anonymous	Copper, total	7440-50-8	E420	0.0394 mg/L	0.04 mg/L	98.6	70.0	130	----
VA24C3304-001	Anonymous	Aluminum, total	7429-90-5	E420	0.191 mg/L	0.2 mg/L	95.4	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0186 mg/L	0.02 mg/L	92.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Barium, total	7440-39-3	E420	0.0182 mg/L	0.02 mg/L	91.0	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
Total Metals (QCLot: 1643312) - continued										
VA24C3304-001	Anonymous	Beryllium, total	7440-41-7	E420	0.0388 mg/L	0.04 mg/L	97.0	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00969 mg/L	0.01 mg/L	96.9	70.0	130	----
		Boron, total	7440-42-8	E420	0.093 mg/L	0.1 mg/L	93.3	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00394 mg/L	0.004 mg/L	98.6	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00971 mg/L	0.01 mg/L	97.1	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0380 mg/L	0.04 mg/L	95.0	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0197 mg/L	0.02 mg/L	98.4	70.0	130	----
		Iron, total	7439-89-6	E420	1.86 mg/L	2 mg/L	93.2	70.0	130	----
		Lead, total	7439-92-1	E420	0.0189 mg/L	0.02 mg/L	94.7	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0964 mg/L	0.1 mg/L	96.4	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0194 mg/L	0.02 mg/L	97.2	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0387 mg/L	0.04 mg/L	96.7	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.3 mg/L	10 mg/L	103	70.0	130	----
		Potassium, total	7440-09-7	E420	4.11 mg/L	4 mg/L	103	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
		Silicon, total	7440-21-3	E420	9.72 mg/L	10 mg/L	97.2	70.0	130	----
		Silver, total	7440-22-4	E420	0.00385 mg/L	0.004 mg/L	96.3	70.0	130	----
		Sodium, total	7440-23-5	E420	1.95 mg/L	2 mg/L	97.6	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	19.9 mg/L	20 mg/L	99.5	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0392 mg/L	0.04 mg/L	98.0	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00379 mg/L	0.004 mg/L	94.8	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0148 mg/L	0.02 mg/L	74.2	70.0	130	----
		Tin, total	7440-31-5	E420	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0378 mg/L	0.04 mg/L	94.6	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0186 mg/L	0.02 mg/L	93.1	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00394 mg/L	0.004 mg/L	98.4	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0961 mg/L	0.1 mg/L	96.1	70.0	130	----
		Zinc, total	7440-66-6	E420	0.420 mg/L	0.4 mg/L	105	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0387 mg/L	0.04 mg/L	96.8	70.0	130	----
Total Metals (QCLot: 1648956)										
VA24C3862-007	Anonymous	Mercury, total	7439-97-6	E508	0.000472 mg/L	0 mg/L	94.4	70.0	130	----
Dissolved Metals (QCLot: 1642485)										
VA24C3210-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0392 mg/L	0.04 mg/L	97.9	70.0	130	----
Dissolved Metals (QCLot: 1642486)										
VA24C3210-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.194 mg/L	0.2 mg/L	96.9	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0194 mg/L	0.02 mg/L	96.9	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0204 mg/L	0.02 mg/L	102	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: 1642486) - continued										
VA24C3210-001	Anonymous	Beryllium, dissolved	7440-41-7	E421	0.0374 mg/L	0.04 mg/L	93.4	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00880 mg/L	0.01 mg/L	88.0	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.107 mg/L	0.1 mg/L	107	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00400 mg/L	0.004 mg/L	100.0	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00965 mg/L	0.01 mg/L	96.5	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0392 mg/L	0.04 mg/L	97.9	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0189 mg/L	0.02 mg/L	94.5	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.89 mg/L	2 mg/L	94.7	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0920 mg/L	0.1 mg/L	92.0	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	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0371 mg/L	0.04 mg/L	92.8	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.83 mg/L	10 mg/L	98.3	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.62 mg/L	4 mg/L	90.6	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0189 mg/L	0.02 mg/L	94.5	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.16 mg/L	10 mg/L	91.6	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00335 mg/L	0.004 mg/L	83.7	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	19.7 mg/L	20 mg/L	98.6	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0416 mg/L	0.04 mg/L	104	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00364 mg/L	0.004 mg/L	91.0	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0182 mg/L	0.02 mg/L	91.0	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0193 mg/L	0.02 mg/L	96.7	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0370 mg/L	0.04 mg/L	92.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00392 mg/L	0.004 mg/L	98.0	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	0.393 mg/L	0.4 mg/L	98.4	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0388 mg/L	0.04 mg/L	96.9	70.0	130	----
Dissolved Metals (QCLot: 1647317)										
VA24C3114-006	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000970 mg/L	0 mg/L	97.0	70.0	130	----
Dissolved Metals (QCLot: 1647318)										
YL2401405-008	SNP4331-240905	Mercury, dissolved	7439-97-6	E509	0.0000899 mg/L	0 mg/L	89.9	70.0	130	----
Volatile Organic Compounds (QCLot: 1642907)										
YL2401395-001	Anonymous	Benzene	71-43-2	E611A	81.2 µg/L	100 µg/L	81.2	60.0	140	----
		Ethylbenzene	100-41-4	E611A	83.0 µg/L	100 µg/L	83.0	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	83.4 µg/L	100 µg/L	83.4	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: 1642907) - continued										
YL2401395-001	Anonymous	Styrene	100-42-5	E611A	85.0 µg/L	100 µg/L	85.0	60.0	140	----
		Toluene	108-88-3	E611A	82.5 µg/L	100 µg/L	82.5	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	168 µg/L	200 µg/L	84.0	60.0	140	----
		Xylene, o-	95-47-6	E611A	83.3 µg/L	100 µg/L	83.3	60.0	140	----
Hydrocarbons (QCLot: 1642906)										
VA24C3438-003	Anonymous	F1 (C6-C10)	----	E581.VH+F1	4290 µg/L	6310 µg/L	67.9	60.0	140	----

Taiga Batch No.:
241371

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: 12-Sep-24
Print Date: *12-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.: 241371

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401405-011 SNP4321A-240905 **Taiga Sample ID:** 001

Client Project:
Sample Type: Water
Received Date: 06-Sep-24
Sampling Date: 05-Sep-24
Sampling Time: 17:07
Location:
Report Status: **Final**

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

ReportDate: 12-Sep-24
Print Date: *12-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.: **241371**

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **YL2401405-011 SNP4321A-240905** **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: 12-Sep-24

Print Date: *12-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
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	Total Ammonia				
SNP4312-240905	SNP 43-12	5-Sep-24	13:51	Water			G	12	X	X	X	X	X								
SNP435-240905	SNP 43-5	5-Sep-24	14:07	Water			G	12	X	X	X	X	X								
SNP4323-240905	SNP 43-23	5-Sep-24	14:29	Water			G	8	X	X	X		X								
SNP4329-240905	SNP 43-29	5-Sep-24	14:46	Water			G	8	X	X	X										
SNP4316-240905	SNP 43-16	5-Sep-24	15:26	Water			G	8	X	X	X		X								
SNP4332-240905	SNP 43-32	5-Sep-24	15:39	Water			G	8	X	X	X										
DUP-SNP4332-240905	SNP 43-32	5-Sep-24	15:39	Water			G	8	X	X	X										
SNP4331-240905	SNP 43-31	5-Sep-24	16:09	Water			G	8	X	X	X										
TRCK-240905	TR-CK	5-Sep-24	16:20	Water			G	8	X	X	X		X								
SNP4330-240905	SNP 43-30	5-Sep-24	16:33	Water			G	8	X	X	X										
SNP4321A-240905	SNP 43-21A	5-Sep-24	17:07	Water		HIGH ARSENIC	C	13	X	X	X	X		X							

Environmental Division
Yellowknife
Work Order Reference
YL2401405

Telephone : +1 867 873 5593

Relinquished by (Sampler Signature): T.Kakfwi
Keenan Kakfwi

Date/Time: 2024-September-06 9:01

Company: SLR Consulting

Received by (Name): Simon Arlooktoo

Received by (Signature)

Company: ALS SEPT 06/24

Sample Receipt Temperature (deg. C): 2.6

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	: **YL2401444**		
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	: 11-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 14-Sep-2024
C-O-C number	: ----	Issue Date	: 19-Sep-2024 14:05
Sampler	: Keenan Kakfwi		
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*
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Erin Sanchez		Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Walt Kippenhuck	Supervisor - Inorganic	Inorganics, Waterloo, Ontario
Wingyee Cheng	Analyst- General	Metals, Burnaby, British Columbia

General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
pH units	pH units
µS/cm	microsiemens per centimetre
NTU	nephelometric turbidity units
-	no units
meq/L	milliequivalents per litre
%	percent
µg/L	micrograms 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.

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).
SRU	Sample Received Unpreserved. Results may be biased low for indicated parameter(s).

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	TRCK-240910	SNP435-240910	MW2111-240910	SNP4323-240910	FB-SNP431-G-240910
				Client sampling date / time	10-Sep-2024 12:28	10-Sep-2024 13:00	10-Sep-2024 13:53	10-Sep-2024 18:37	10-Sep-2024 19:00
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-001	YL2401444-002	YL2401444-003	YL2401444-004	YL2401444-006
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	161	75.5	89.4	70.5	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	9.0	<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	4.5	<1.0	<1.0	<1.0	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	170	75.5	89.4	70.5	----
Conductivity	----	E100/VA	1.0	µS/cm	857	3170	1460	3170	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	355	1400	724	1410	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	356	1480	748	1500	----
pH	----	E108/VA	0.10	pH units	8.45	8.00	8.07	7.95	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	721	2820	1290	2900	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	4.3	2.4	<1.0	3.1	----
Turbidity	----	E121/VA	0.10	NTU	5.79	4.31	1.65	3.67	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0340	0.0066	0.0076	0.0077	<0.0050
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	0.933	5.94	0.383	5.81	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	93.7	473	31.6	472	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.113	<0.400 DLDS	<0.100 DLDS	<0.400 DLDS	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0250 DLDS	<0.100 DLDS	11.9	<0.100 DLDS	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0255	<0.102	11.9	<0.102	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0050 DLDS	<0.0200 DLDS	0.0092	<0.0200 DLDS	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0456	0.0192	----	0.0246	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240910	SNP435-240910	MW2111-240910	SNP4323-240910	FB-SNP431-G-240910
				Client sampling date / time	10-Sep-2024 12:28	10-Sep-2024 13:00	10-Sep-2024 13:53	10-Sep-2024 18:37	10-Sep-2024 19:00
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-001	YL2401444-002	YL2401444-003	YL2401444-004	YL2401444-006
					Result	Result	Result	Result	Result
Anions and Nutrients									
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	4.53	1.15	3.99	1.82	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	157	1150	684	1150	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	28.5	8.78	10.1	8.42	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	25.3	7.74	10.7	7.93	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	9.33	38.9	17.8	38.7	----
Cation sum	----	EC101/VA	0.10	meq/L	9.05	36.2	16.1	36.5	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-1.52	-3.60	-5.01	-2.92	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.206	0.0797	0.0324	0.0657	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00414	0.0716	0.125	0.0669	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.114	0.108	1.11	0.142	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0450	0.100	0.0504	0.0864	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100 DLA	<0.000100	<0.000100 DLA	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000050	<0.000100 DLA	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.035	0.280	0.043	0.285	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	0.0000446	0.0000795	0.0000527	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	78.6	430	255	437	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000018	0.000047	<0.000010	0.000045	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00036	<0.00020 DLA	0.00022	<0.00020 DLA	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240910	SNP435-240910	MW2111-240910	SNP4323-240910	FB-SNP431-G-240910
				Client sampling date / time	10-Sep-2024 12:28	10-Sep-2024 13:00	10-Sep-2024 13:53	10-Sep-2024 18:37	10-Sep-2024 19:00
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-001	YL2401444-002	YL2401444-003	YL2401444-004	YL2401444-006
					Result	Result	Result	Result	Result
Total Metals									
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00050	<0.00100 DLA	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00200	0.00141	0.00079	0.00188	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	0.00411	0.00712	0.00402	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.200	0.304	0.061	0.316	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000104	0.00105	0.000277	0.000718	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0142	0.0288	0.0030	0.0287	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	38.9	100	26.9	100	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0845	0.223	0.00654	0.279	----
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	0.000599	0.00452	0.00631	0.00488	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00089	0.0104	0.00515	0.0105	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.100 DLA	0.563	<0.100 DLA	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	5.74	12.5	8.67	12.3	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00314	0.0111	0.00194	0.0112	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000070	0.000137	0.00323	0.000151	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	2.67	0.80	1.99	1.09	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	0.000110	<0.000020 DLA	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	40.3	189	33.0	187	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.392	3.67	0.271	3.76	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	57.4	428	247	423	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	0.00045	<0.00020	0.00044	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240910	SNP435-240910	MW2111-240910	SNP4323-240910	FB-SNP431-G-240910
				Client sampling date / time	10-Sep-2024 12:28	10-Sep-2024 13:00	10-Sep-2024 13:53	10-Sep-2024 18:37	10-Sep-2024 19:00
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-001	YL2401444-002	YL2401444-003	YL2401444-004	YL2401444-006
					Result	Result	Result	Result	Result
Total Metals									
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	0.000015	<0.000020 DLA	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	0.00050	<0.00020 DLA	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00748	<0.00330 DLM	<0.00330 DLM	<0.00240 DLM	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	0.00042	<0.00020 DLA	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000984	0.00210	0.00248	0.00175	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00074	<0.00100 DLA	0.00064	<0.00100 DLA	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	0.0119	0.0514	0.0114	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00029	<0.00040 DLA	<0.00020	<0.00040 DLA	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0099	0.0020	0.0028	0.0030	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00432	0.0699	0.125	0.0672	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.114	0.0636	1.08	0.0830	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0461	0.0976	0.0480	0.0884	----
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	<0.000050	<0.000100 DLA	<0.000050	<0.000100 DLA	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.032	0.259	0.044	0.260	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	0.0000386	0.0000702	0.0000465	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	73.1	390	243	397	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	0.000046	<0.000010	0.000044	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240910	SNP435-240910	MW2111-240910	SNP4323-240910	FB-SNP431-G-240910
				Client sampling date / time	10-Sep-2024 12:28	10-Sep-2024 13:00	10-Sep-2024 13:53	10-Sep-2024 18:37	10-Sep-2024 19:00
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-001	YL2401444-002	YL2401444-003	YL2401444-004	YL2401444-006
					Result	Result	Result	Result	Result
Dissolved Metals									
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00050	<0.00100 DLA	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00201	0.00133	0.00069	0.00182	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00023	0.00324	0.00645	0.00301	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.033	0.043	0.015	0.053	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	0.000131	0.000201	0.000114	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0136	0.0261	0.0031	0.0259	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	41.9	104	28.6	102	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.0760	0.224	0.00522	0.284	----
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	0.000588	0.00446	0.00643	0.00478	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00069	0.0102	0.00483	0.0102	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.100 DLA	0.541	<0.100 DLA	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	6.09	12.7	9.33	12.4	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00282	0.0105	0.00177	0.0104	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000082	0.000154	0.00334	0.000112	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	2.13	0.574	1.80	0.850	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	<0.000010	<0.000020 DLA	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	41.3	180	32.5	184	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.380	3.47	0.261	3.55	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	55.6	413	233	410	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00020	<0.00040 DLA	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	TRCK-240910	SNP435-240910	MW2111-240910	SNP4323-240910	FB-SNP431-G-240910
				Client sampling date / time	10-Sep-2024 12:28	10-Sep-2024 13:00	10-Sep-2024 13:53	10-Sep-2024 18:37	10-Sep-2024 19:00
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-001	YL2401444-002	YL2401444-003	YL2401444-004	YL2401444-006
					Result	Result	Result	Result	Result
Dissolved Metals									
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000020 DLA	0.000013	<0.000020 DLA	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	0.00036	<0.00020 DLA	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	0.00048	<0.00060 DLA	<0.00030	<0.00060 DLA	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	0.00039	<0.00020 DLA	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.000940	0.00198	0.00236	0.00175	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	0.00050	<0.00100 DLA	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	0.0106	0.0494	0.0098	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00020	<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]									
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	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240910	SNP435-240910	MW2111-240910	SNP4323-240910	FB-SNP431-G-240910
				Client sampling date / time	10-Sep-2024 12:28	10-Sep-2024 13:00	10-Sep-2024 13:53	10-Sep-2024 18:37	10-Sep-2024 19:00
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-001	YL2401444-002	YL2401444-003	YL2401444-004	YL2401444-006
					Result	Result	Result	Result	Result
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	%	----	81.0	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	93.4	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	94.5	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	123	----	----	----

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	SNP431-240910	MW2106-240910	TB-240910	----	----
				Client sampling date / time	10-Sep-2024 19:08	10-Sep-2024 20:48	10-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-007	YL2401444-008	YL2401444-009	----	----
					Result	Result	Result	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	42.6	235	<1.0	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	23.6	<1.0	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-240910	MW2106-240910	TB-240910	----	----
				Client sampling date / time	10-Sep-2024 19:08	10-Sep-2024 20:48	10-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-007	YL2401444-008	YL2401444-009	----	----
					Result	Result	Result	----	----
Physical Tests									
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	11.8	<1.0	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	42.6	258	<1.0	----	----
Conductivity	----	E100/VA	1.0	µS/cm	3390	904	<1.0	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1540	21.7	<0.60	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1580	25.0	<0.60	----	----
pH	----	E108/VA	0.10	pH units	7.73	8.75	5.50	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	2950	689	<3.0	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	1.4	71.8	<1.0	----	----
Turbidity	----	E121/VA	0.10	NTU	0.38	24.0	<0.10	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0172	0.0728	<0.0050	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	6.29	<0.250 DLDS	<0.050	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	517	6.40	<0.50	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.400 DLDS	0.630	<0.020	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.454	0.327	<0.0050	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.454	0.469	<0.0051	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0200 DLDS	0.142	<0.0010	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	----	----	<0.0020	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	0.75	17.3	<0.50	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	1250	196	<0.30	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-240910	MW2106-240910	TB-240910	----	----
				Client sampling date / time	10-Sep-2024 19:08	10-Sep-2024 20:48	10-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-007	YL2401444-008	YL2401444-009	----	----
					Result	Result	Result	----	----
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/WT	0.0050	mg/L	<0.0050	----	<0.0050 SRU	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	8.42	5.42	<0.50	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	7.61	5.75	<0.50	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	41.6	9.48	<0.10	----	----
Cation sum	----	EC101/VA	0.10	meq/L	39.7	9.74	<0.10	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-2.34	1.35	0.0	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0091	3.98	<0.0030	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.182	0.00291	<0.00010	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.283	0.0420	<0.00010	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0178	0.0170	<0.00010	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100 DLA	0.000196	<0.000100	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000100 DLA	0.000051	<0.000050	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.343	1.29	<0.010	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000361	0.0000878	<0.0000050	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	460	6.53	<0.050	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000346	0.000200	<0.000010	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00021	0.00148	<0.00010	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00100 DLA	0.00148	<0.00050	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-240910	MW2106-240910	TB-240910	----	----
				Client sampling date / time	10-Sep-2024 19:08	10-Sep-2024 20:48	10-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-007	YL2401444-008	YL2401444-009	----	----
					Result	Result	Result	----	----
Total Metals									
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00356	0.00060	<0.00010	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00925	0.00326	<0.00050	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	<0.020 DLA	1.90	<0.010	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000100 DLA	0.00416	<0.000050	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0369	0.0447	<0.0010	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	106	2.11	<0.0050	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00250	0.0530	<0.00010	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	0.0000057	<0.0000050	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0174	0.0253	<0.000050	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.0103	0.00223	<0.00050	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.100 DLA	0.394	<0.050	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	13.3	1.50	<0.050	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.0122	0.00313	<0.00020	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000494	0.00164	<0.000050	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	0.43	22.0	<0.10	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000043	0.000514	<0.000010	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	207	200	<0.050	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	4.30	0.0401	<0.00020	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	466	65.8	<0.50	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	0.00051	<0.00020	<0.00020	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000028	0.000017	<0.000010	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-240910	MW2106-240910	TB-240910	----	----
				Client sampling date / time	10-Sep-2024 19:08	10-Sep-2024 20:48	10-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-007	YL2401444-008	YL2401444-009	----	----
					Result	Result	Result	----	----
Total Metals									
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00020 DLA	0.00192	<0.00010	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00020 DLA	0.00122	<0.00010	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00060 DLA	0.0737	<0.00030	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00025	0.00230	<0.00010	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00263	0.00427	<0.000010	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00100 DLA	0.00285	<0.00050	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0060 DLA	0.0412	<0.0030	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00040 DLA	0.00394	<0.00020	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0066	0.978	<0.0010	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.188	0.00179	<0.00010	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.276	0.0312	<0.00010	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0177	0.0106	<0.00010	----	----
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	<0.000050	<0.000050	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.321	1.28	<0.010	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000276	0.0000535	<0.0000050	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	433	5.88	<0.050	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000418	0.000085	<0.000010	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00024	0.00037	<0.00010	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00050	<0.00050	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-240910	MW2106-240910	TB-240910	----	----
				Client sampling date / time	10-Sep-2024 19:08	10-Sep-2024 20:48	10-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-007	YL2401444-008	YL2401444-009	----	----
					Result	Result	Result	----	----
Dissolved Metals									
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00349	0.00027	<0.00010	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00876	0.00289	<0.00020	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	<0.020 DLA	0.538	<0.010	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000100 DLA	0.00166	<0.000050	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0341	0.0422	<0.0010	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	111	1.70	<0.0050	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00135	0.0325	<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	0.0182	0.0265	<0.000050	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.0101	0.00211	<0.00050	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.100 DLA	0.353	<0.050	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	13.3	1.47	<0.050	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.0119	0.00205	<0.00020	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000365	0.00180	<0.000050	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	0.339	11.1	<0.050	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	0.000027	0.000128	<0.000010	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	198	210	<0.050	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	4.30	0.0383	<0.00020	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	445	70.6	<0.50	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00020	<0.00020	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	0.000021	<0.000010	<0.000010	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-240910	MW2106-240910	TB-240910	----	----
				Client sampling date / time	10-Sep-2024 19:08	10-Sep-2024 20:48	10-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-007	YL2401444-008	YL2401444-009	----	----
					Result	Result	Result	----	----
Dissolved Metals									
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00020 DLA	0.00073	<0.00010	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00020 DLA	0.00044	<0.00010	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00060 DLA	0.0260	<0.00030	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00026	0.00206	<0.00010	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00253	0.00418	<0.000010	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00100 DLA	0.00192	<0.00050	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0032	0.0216	<0.0010	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00040 DLA	0.00133	<0.00020	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Laboratory	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	N/A	----	----
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	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SNP431-240910	MW2106-240910	TB-240910	----	----
				Client sampling date / time	10-Sep-2024 19:08	10-Sep-2024 20:48	10-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401444-007	YL2401444-008	YL2401444-009	----	----
					Result	Result	Result	----	----
Hydrocarbons									
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	%	91.4	----	81.1	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	90.7	----	96.4	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	93.6	----	93.6	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	124	----	124	----	----

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	: **YL2401444**	Page	: 1 of 30
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	: 11-Sep-2024 09:02
PO	: YEL218	Issue Date	: 19-Sep-2024 14:05
C-O-C number	: ----		
Sampler	: Keenan Kakfwi		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 9		
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-240910	E298	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW2106-240910	E298	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW2111-240910	E298	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP431-240910	E298	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4323-240910	E298	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP435-240910	E298	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TRCK-240910	E298	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (lab preserved)										
TB-240910	E298	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	16-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
MW2106-240910	E235.Br-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
SNP431-240910	E235.Br-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
SNP4323-240910	E235.Br-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
MW2111-240910	E235.Br-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
SNP435-240910	E235.Br-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
TB-240910	E235.Br-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
TRCK-240910	E235.Br-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE										
MW2106-240910	E235.Cl	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-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 SNP431-240910	E235.Cl	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4323-240910	E235.Cl	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW2111-240910	E235.Cl	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP435-240910	E235.Cl	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TB-240910	E235.Cl	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TRCK-240910	E235.Cl	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW2106-240910	E235.F	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP431-240910	E235.F	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4323-240910	E235.F	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW2111-240910	E235.F	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP435-240910	E235.F	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TB-240910	E235.F	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TRCK-240910	E235.F	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW2106-240910	E235.NO3-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP431-240910	E235.NO3-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4323-240910	E235.NO3-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW2111-240910	E235.NO3-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP435-240910	E235.NO3-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	4 days	× EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: 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 TB-240910	E235.NO3-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE TRCK-240910	E235.NO3-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW2106-240910	E235.NO2-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP431-240910	E235.NO2-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4323-240910	E235.NO2-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW2111-240910	E235.NO2-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP435-240910	E235.NO2-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE TB-240910	E235.NO2-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	4 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE TRCK-240910	E235.NO2-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	3 days	4 days	× EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW2106-240910	E392	10-Sep-2024	----	----	----		14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW2111-240910	E392	10-Sep-2024	----	----	----		14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP431-240910	E392	10-Sep-2024	----	----	----		14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4323-240910	E392	10-Sep-2024	----	----	----		14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP435-240910	E392	10-Sep-2024	----	----	----		14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TB-240910	E392	10-Sep-2024	----	----	----		14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TRCK-240910	E392	10-Sep-2024	----	----	----		14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW2106-240910	E235.SO4	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP431-240910	E235.SO4	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-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 SNP4323-240910	E235.SO4	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW2111-240910	E235.SO4	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP435-240910	E235.SO4	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TB-240910	E235.SO4	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TRCK-240910	E235.SO4	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4323-240910	E372-U	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP435-240910	E372-U	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) TRCK-240910	E372-U	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (lab preserved) TB-240910	E372-U	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	16-Sep-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) SNP431-240910	E333	10-Sep-2024	18-Sep-2024	14 days	8 days	✓	18-Sep-2024	14 days	8 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (lab preserved) TB-240910	E333	10-Sep-2024	14-Sep-2024	29 hrs	95 hrs	✗ EHTL	14-Sep-2024	29 hrs	95 hrs	✗ EHTL
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW2106-240910	E421.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW2111-240910	E421.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP431-240910	E421.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4323-240910	E421.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP435-240910	E421.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TB-240910	E421.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TRCK-240910	E421.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 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) MW2106-240910	E509	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW2111-240910	E509	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP431-240910	E509	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4323-240910	E509	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP435-240910	E509	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial - dissolved (lab preserved) TB-240910	E509	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) TRCK-240910	E509	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW2106-240910	E421	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW2111-240910	E421	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-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				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) SNP431-240910	E421	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4323-240910	E421	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TB-240910	E421	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TRCK-240910	E421	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP435-240910	E421	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP431-240910	E601	10-Sep-2024	14-Sep-2024	14 days	4 days	✓	18-Sep-2024	40 days	4 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP435-240910	E601	10-Sep-2024	14-Sep-2024	14 days	4 days	✓	18-Sep-2024	40 days	4 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) TB-240910	E601	10-Sep-2024	14-Sep-2024	14 days	4 days	✓	18-Sep-2024	40 days	4 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP431-240910	E581.VH+F1	10-Sep-2024	17-Sep-2024	14 days	6 days	✓	17-Sep-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) SNP435-240910	E581.VH+F1	10-Sep-2024	17-Sep-2024	14 days	7 days	✓	17-Sep-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) TB-240910	E581.VH+F1	10-Sep-2024	17-Sep-2024	14 days	7 days	✓	17-Sep-2024	14 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW2106-240910	E358-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW2111-240910	E358-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP431-240910	E358-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4323-240910	E358-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP435-240910	E358-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) TRCK-240910	E358-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) TB-240910	E358-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	28 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
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW2106-240910	E355-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW2111-240910	E355-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP431-240910	E355-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4323-240910	E355-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP435-240910	E355-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) TRCK-240910	E355-L	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	14-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (lab preserved) TB-240910	E355-L	10-Sep-2024	13-Sep-2024	3 days	3 days	✓	14-Sep-2024	28 days	0 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW2106-240910	E290	10-Sep-2024	13-Sep-2024	14 days	3 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW2111-240910	E290	10-Sep-2024	13-Sep-2024	14 days	3 days	✓	16-Sep-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 SNP431-240910	E290	10-Sep-2024	13-Sep-2024	14 days	3 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4323-240910	E290	10-Sep-2024	13-Sep-2024	14 days	3 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP435-240910	E290	10-Sep-2024	13-Sep-2024	14 days	3 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TB-240910	E290	10-Sep-2024	13-Sep-2024	14 days	3 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TRCK-240910	E290	10-Sep-2024	13-Sep-2024	14 days	3 days	✓	16-Sep-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW2106-240910	E100	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW2111-240910	E100	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP431-240910	E100	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4323-240910	E100	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE SNP435-240910	E100	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE TB-240910	E100	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE TRCK-240910	E100	10-Sep-2024	13-Sep-2024	28 days	3 days	✓	16-Sep-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE MW2106-240910	E108	10-Sep-2024	13-Sep-2024	0.25 hrs	72 hrs	✗ EHTR-FM	16-Sep-2024	0.25 hrs	143 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP431-240910	E108	10-Sep-2024	13-Sep-2024	0.25 hrs	73 hrs	✗ EHTR-FM	16-Sep-2024	0.25 hrs	145 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4323-240910	E108	10-Sep-2024	13-Sep-2024	0.25 hrs	74 hrs	✗ EHTR-FM	16-Sep-2024	0.25 hrs	145 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW2111-240910	E108	10-Sep-2024	13-Sep-2024	0.25 hrs	78 hrs	✗ EHTR-FM	16-Sep-2024	0.25 hrs	150 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP435-240910	E108	10-Sep-2024	13-Sep-2024	0.25 hrs	79 hrs	✗ EHTR-FM	16-Sep-2024	0.25 hrs	151 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE TB-240910	E108	10-Sep-2024	13-Sep-2024	0.25 hrs	80 hrs	✗ EHTR-FM	16-Sep-2024	0.25 hrs	151 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 TRCK-240910	E108	10-Sep-2024	13-Sep-2024	0.25 hrs	80 hrs	✗ EHTR-FM	16-Sep-2024	0.25 hrs	151 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW2106-240910	E162-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW2111-240910	E162-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP431-240910	E162-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4323-240910	E162-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP435-240910	E162-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE TB-240910	E162-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE TRCK-240910	E162-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW2106-240910	E160-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW2111-240910	E160-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP431-240910	E160-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4323-240910	E160-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP435-240910	E160-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] TB-240910	E160-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] TRCK-240910	E160-L	10-Sep-2024	----	----	----		17-Sep-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MW2106-240910	E121	10-Sep-2024	----	----	----		13-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MW2111-240910	E121	10-Sep-2024	----	----	----		13-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP431-240910	E121	10-Sep-2024	----	----	----		13-Sep-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 SNP4323-240910	E121	10-Sep-2024	----	----	----		13-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP435-240910	E121	10-Sep-2024	----	----	----		13-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE TB-240910	E121	10-Sep-2024	----	----	----		13-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE TRCK-240910	E121	10-Sep-2024	----	----	----		13-Sep-2024	3 days	3 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW2106-240910	E420.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP431-240910	E420.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4323-240910	E420.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP435-240910	E420.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TB-240910	E420.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-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				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) TRCK-240910	E420.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	17-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW2111-240910	E420.Cr-L	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	18-Sep-2024	180 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW2106-240910	E508	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW2111-240910	E508	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP431-240910	E508	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4323-240910	E508	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP435-240910	E508	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) TB-240910	E508	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) TRCK-240910	E508	10-Sep-2024	17-Sep-2024	28 days	7 days	✓	17-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
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW2106-240910	E420	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	18-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW2111-240910	E420	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	18-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP431-240910	E420	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	18-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4323-240910	E420	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	18-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP435-240910	E420	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	18-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TB-240910	E420	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	18-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TRCK-240910	E420	10-Sep-2024	17-Sep-2024	180 days	7 days	✓	18-Sep-2024	180 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP431-240910	E611A	10-Sep-2024	17-Sep-2024	14 days	6 days	✓	17-Sep-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP435-240910	E611A	10-Sep-2024	17-Sep-2024	14 days	7 days	✓	17-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)										
TB-240910	E611A	10-Sep-2024	17-Sep-2024	14 days	7 days	✓	17-Sep-2024	14 days	7 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.

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	1651038	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1651068	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1651042	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1654814	1	10	10.0	5.0	✓
Chloride in Water by IC	E235.Cl	1651041	1	20	5.0	5.0	✓
Conductivity in Water	E100	1651039	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1653465	1	13	7.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1655598	3	31	9.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1653466	2	17	11.7	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1651070	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1651040	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1651043	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1651044	1	20	5.0	5.0	✓
pH by Meter	E108	1651037	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1651803	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1651045	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1657047	1	19	5.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653544	1	17	5.8	5.0	✓
Total Cyanide	E333	1651687	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1656934	2	23	8.7	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653545	1	17	5.8	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1651067	1	13	7.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1651069	1	10	10.0	5.0	✓
Turbidity by Nephelometry	E121	1651060	2	34	5.8	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1654815	1	14	7.1	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1651038	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1651068	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1651042	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1654814	1	10	10.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1651236	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1651041	1	20	5.0	5.0	✓
Conductivity in Water	E100	1651039	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1653465	1	13	7.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1655598	3	31	9.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1653466	1	17	5.8	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1651070	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1651040	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1651043	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1651044	1	20	5.0	5.0	✓
pH by Meter	E108	1651037	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1651803	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1651045	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1657047	1	19	5.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653544	1	17	5.8	5.0	✓
Total Cyanide	E333	1651687	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1656934	2	23	8.7	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653545	1	17	5.8	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1651067	1	13	7.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1651069	1	10	10.0	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1657052	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1651060	2	34	5.8	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1654815	1	14	7.1	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1651038	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1651068	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1651042	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1654814	1	10	10.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1651236	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1651041	1	20	5.0	5.0	✓
Conductivity in Water	E100	1651039	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1653465	1	13	7.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1655598	3	31	9.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1653466	2	17	11.7	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1651070	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1651040	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1651043	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1651044	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1651803	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1651045	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1657047	1	19	5.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653544	1	17	5.8	5.0	✓
Total Cyanide	E333	1651687	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1656934	2	23	8.7	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653545	1	17	5.8	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1651067	1	13	7.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1651069	1	10	10.0	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1657052	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1651060	2	34	5.8	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1654815	1	14	7.1	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1651068	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1651042	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1654814	1	10	10.0	5.0	✓
Chloride in Water by IC	E235.Cl	1651041	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1653465	1	13	7.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1655598	3	31	9.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1653466	2	17	11.7	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1651070	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1651040	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1651043	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1651044	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1651803	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1651045	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653544	1	17	5.8	5.0	✓
Total Cyanide	E333	1651687	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1656934	2	23	8.7	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653545	1	17	5.8	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1651067	1	13	7.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1651069	1	10	10.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1654815	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 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	: **YL2401444**	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	: 11-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 13-Sep-2024
C-O-C number	: ----	Issue Date	: 19-Sep-2024 14:05
Sampler	: Keenan Kakfwi		
Site	: Giant Mine		
Quote number	: YL23-SLRC100-001		
No. of samples received	: 9		
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*
Dan Gebert	Laboratory Analyst	Vancouver Metals, Burnaby, British Columbia
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Wingyee Cheng	Analyst- General	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: 1651037)											
FJ2402741-003	Anonymous	pH	----	E108	0.10	pH units	8.50	8.51	0.118%	4%	----
Physical Tests (QC Lot: 1651038)											
FJ2402741-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	156	157	0.256%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	10.0	10.4	3.92%	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	5.0	5.2	0.2	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	166	167	0.480%	20%	----
Physical Tests (QC Lot: 1651039)											
FJ2402741-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	453	450	0.664%	10%	----
Physical Tests (QC Lot: 1651060)											
VA24C3976-003	Anonymous	Turbidity	----	E121	0.10	NTU	1.10	1.03	0.07	Diff <2x LOR	----
Physical Tests (QC Lot: 1651118)											
VA24C3978-001	Anonymous	Turbidity	----	E121	0.10	NTU	1.25	1.37	0.12	Diff <2x LOR	----
Physical Tests (QC Lot: 1657047)											
VA24C3598-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	202	211	4.35%	20%	----
Anions and Nutrients (QC Lot: 1651040)											
FJ2402741-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.068	0.066	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1651041)											
FJ2402741-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1651042)											
FJ2402741-001	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: 1651043)											
FJ2402741-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0245	0.0252	0.0007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1651044)											
FJ2402741-001	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: 1651045)											
FJ2402741-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	13.3	13.3	0.488%	20%	----
Anions and Nutrients (QC Lot: 1651068)											
FJ2402749-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0121	0.0116	0.0004	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1651069)											
YL2401432-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0094	0.0095	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1651803)											
YL2401438-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Cyanides (QC Lot: 1651687)											
YL2401027-009	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Cyanides (QC Lot: 1655637)											
VA24C3858-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1651067)											
YL2401432-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	5.65	5.43	3.97%	20%	----
Organic / Inorganic Carbon (QC Lot: 1651070)											
FJ2402749-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	3.66	3.86	0.21	Diff <2x LOR	----
Total Metals (QC Lot: 1653544)											
VA24C3828-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00032	0.00031	0.000009	Diff <2x LOR	----
Total Metals (QC Lot: 1653545)											
VA24C3828-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0115	0.0111	0.0004	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00108	0.00108	0.345%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00432	0.00427	1.11%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.00767	0.00749	2.29%	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	0.056	0.053	0.003	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.000198	0.000194	2.24%	20%	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	281	275	2.22%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000233	0.000232	0.507%	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	0.00209	0.00207	0.931%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00102	0.00102	0.000003	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.141	0.139	1.49%	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	0.0063	0.0060	0.0003	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	71.9	69.1	3.98%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.375	0.364	2.98%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000710	0.000690	2.99%	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: 1653545) - continued											
VA24C3828-001	Anonymous	Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00214	0.00211	0.00002	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	12.2	11.9	1.93%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.0102	0.00994	2.48%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000084	0.000065	0.000019	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	2.24	2.26	0.667%	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	23.8	23.4	1.58%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.782	0.776	0.765%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	384	385	0.428%	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	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000412	0.000415	0.635%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00065	0.00062	0.00002	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0270	0.0260	0.0010	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: 1656934)											
VA24C3931-013	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1656935)											
YL2401444-007	SNP431-240910	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1653465)											
VA24C3828-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00026	0.00028	0.00002	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1653466)											
VA24C3828-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0075	0.0069	0.0006	Diff <2x LOR	----
VA24C3828-001	Anonymous	Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00110	0.00110	0.242%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00203	0.00208	2.17%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.00805	0.00789	1.94%	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	0.051	0.050	0.002	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: 1653466) - continued											
VA24C3828-001	Anonymous	Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000086	0.0000093	0.0000007	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	279	275	1.59%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000268	0.000266	0.510%	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	0.00207	0.00207	0.0329%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00074	0.00075	0.00001	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	0.0063	0.0060	0.0003	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	78.2	76.6	2.07%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.272	0.268	1.47%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000646	0.000662	2.36%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00213	0.00213	0.000005	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	14.0	13.7	2.45%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.0101	0.0102	0.438%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000083	0.000084	0.0000007	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.11	2.10	0.761%	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	25.7	25.1	2.54%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.767	0.762	0.657%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	365	362	1.04%	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	0.000402	0.000411	2.14%	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	0.0090	0.0085	0.0005	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: 1655598)											
FJ2402724-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	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: 1655618)											
VA24C3192-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1655619)											
YL2401444-004	SNP4323-240910	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1654814)											
VA24C3792-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	141	148	4.73%	30%	----
		Ethylbenzene	100-41-4	E611A	1.00	µg/L	135	128	5.25%	30%	----
		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	1.00	µg/L	949	888	6.68%	30%	----
		Xylene, m+p-	179601-23-1	E611A	1.00	µg/L	733	693	5.71%	30%	----
		Xylene, o-	95-47-6	E611A	1.00	µg/L	362	345	4.81%	30%	----
Hydrocarbons (QC Lot: 1654815)											
VA24C4088-001	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: 1651038)						
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: 1651039)						
Conductivity	----	E100	1	µS/cm	1.1	----
Physical Tests (QCLot: 1651060)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1651118)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1657047)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1657052)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1651040)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1651041)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1651042)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1651043)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1651044)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1651045)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1651068)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1651069)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1651803)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1651803) - continued						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Cyanides (QCLot: 1651687)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Cyanides (QCLot: 1655637)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1651067)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1651070)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1653544)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1653545)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1653545) - continued						
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: 1656934)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1656935)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1653465)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1653466)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	MBRR
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1653466) - continued						
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: 1655598)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1655618)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1655619)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1654814)						
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: 1654814) - 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: 1651236)						
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: 1654815)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----

Qualifiers

Qualifier	Description
MBRR	*Initial MB for this submission had positive results for flagged analyte (data not shown). Low level samples were repeated with new QC (2nd MB results shown). High level results (>5x initial MB level) and non-detect results were reported and are defensible*

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1651037)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1651038)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	96.4	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1651039)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	95.4	90.0	110	----
Physical Tests (QCLot: 1651060)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1651118)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1657047)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	111	85.0	115	----
Physical Tests (QCLot: 1657052)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	93.8	85.0	115	----
Anions and Nutrients (QCLot: 1651040)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1651041)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100.0	90.0	110	----
Anions and Nutrients (QCLot: 1651042)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1651043)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1651044)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	105	90.0	110	----
Anions and Nutrients (QCLot: 1651045)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1651068)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1651069)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	94.8	80.0	120	----
Anions and Nutrients (QCLot: 1651803)									

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: 1651803) - continued									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	95.6	85.0	115	----
Cyanides (QCLot: 1651687)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	97.5	80.0	120	----
Cyanides (QCLot: 1655637)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	85.9	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1651067)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	97.9	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1651070)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	94.8	80.0	120	----
Total Metals (QCLot: 1653544)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	97.8	80.0	120	----
Total Metals (QCLot: 1653545)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	103	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	98.8	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	101	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	99.9	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	106	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	90.6	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	97.2	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	96.4	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	97.8	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	97.6	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	97.5	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	98.8	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.8	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	99.5	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	98.5	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	95.8	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	99.7	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	98.3	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	101	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: 1653545) - continued									
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	99.5	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	106	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	89.5	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	101	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	98.5	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	91.9	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	100	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	98.3	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	97.2	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	93.6	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	93.8	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	99.4	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	99.2	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.6	80.0	120	----
Total Metals (QCLot: 1656934)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	87.3	80.0	120	----
Total Metals (QCLot: 1656935)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	91.0	80.0	120	----
Dissolved Metals (QCLot: 1653465)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Dissolved Metals (QCLot: 1653466)									
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	99.6	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	104	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	95.3	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	94.6	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	97.1	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	97.6	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	97.9	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 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
Dissolved Metals (QCLot: 1653466) - continued									
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	100.0	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	102	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	94.6	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	95.8	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	105	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	97.4	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	104	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	98.5	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	103	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	90.1	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	106	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	99.1	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	105	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	97.4	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	91.0	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	100	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	93.3	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	98.7	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	97.1	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	104	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	102	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	96.6	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	96.1	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	97.7	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	86.9	80.0	120	----
Volatile Organic Compounds (QCLot: 1654814)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	89.7	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	87.1	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
Volatile Organic Compounds (QCLot: 1654814) - continued									
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	108	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	84.8	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	87.3	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	86.3	70.0	130	----
Hydrocarbons (QCLot: 1651236)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	122	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	110	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	115	70.0	130	----
Hydrocarbons (QCLot: 1654815)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	78.1	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: 1651040)										
FJ2402741-002	Anonymous	Fluoride	16984-48-8	E235.F	1.03 mg/L	1 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1651041)										
FJ2402741-002	Anonymous	Chloride	16887-00-6	E235.Cl	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1651042)										
FJ2402741-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.503 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1651043)										
FJ2402741-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.54 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1651044)										
FJ2402741-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.474 mg/L	0.5 mg/L	94.8	75.0	125	----
Anions and Nutrients (QCLot: 1651045)										
FJ2402741-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1651068)										
FJ2402749-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1651069)										
YL2401432-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0495 mg/L	0.05 mg/L	99.0	70.0	130	----
Anions and Nutrients (QCLot: 1651803)										
YL2401438-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.1 mg/L	10 mg/L	101	75.0	125	----
Cyanides (QCLot: 1651687)										
YL2401027-010	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.482 mg/L	0.5 mg/L	96.4	75.0	125	----
Cyanides (QCLot: 1655637)										
VA24C3858-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.202 mg/L	0.25 mg/L	80.6	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1651067)										
YL2401432-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1651070)										
FJ2402749-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.41 mg/L	5 mg/L	88.2	70.0	130	----
Total Metals (QCLot: 1653544)										
VA24C3828-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0736 mg/L	0.08 mg/L	91.9	70.0	130	----
Total Metals (QCLot: 1653545)										
VA24C3828-002	Anonymous	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	0.0367 mg/L	0.04 mg/L	91.7	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1653545) - continued										
VA24C3828-002	Anonymous	Barium, total	7440-39-3	E420	0.0345 mg/L	0.04 mg/L	86.3	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0730 mg/L	0.08 mg/L	91.2	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0181 mg/L	0.02 mg/L	90.5	70.0	130	----
		Boron, total	7440-42-8	E420	0.181 mg/L	0.2 mg/L	90.5	70.0	130	----
		Cadmium, total	7440-43-9	E420	ND mg/L	----	ND	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0736 mg/L	0.08 mg/L	91.9	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0359 mg/L	0.04 mg/L	89.7	70.0	130	----
		Copper, total	7440-50-8	E420	0.0339 mg/L	0.04 mg/L	84.7	70.0	130	----
		Iron, total	7439-89-6	E420	ND mg/L	----	ND	70.0	130	----
		Lead, total	7439-92-1	E420	0.0360 mg/L	0.04 mg/L	90.1	70.0	130	----
		Lithium, total	7439-93-2	E420	0.184 mg/L	0.2 mg/L	91.9	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	0.0384 mg/L	0.04 mg/L	95.9	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0717 mg/L	0.08 mg/L	89.6	70.0	130	----
		Phosphorus, total	7723-14-0	E420	20.1 mg/L	20 mg/L	101	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0832 mg/L	0.08 mg/L	104	70.0	130	----
		Silicon, total	7440-21-3	E420	19.1 mg/L	20 mg/L	95.5	70.0	130	----
		Silver, total	7440-22-4	E420	0.00706 mg/L	0.008 mg/L	88.3	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0753 mg/L	0.08 mg/L	94.2	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00697 mg/L	0.008 mg/L	87.2	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0386 mg/L	0.04 mg/L	96.6	70.0	130	----
		Tin, total	7440-31-5	E420	0.0368 mg/L	0.04 mg/L	91.9	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0750 mg/L	0.08 mg/L	93.8	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0354 mg/L	0.04 mg/L	88.4	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00733 mg/L	0.008 mg/L	91.7	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.190 mg/L	0.2 mg/L	95.2	70.0	130	----
		Zinc, total	7440-66-6	E420	ND mg/L	----	ND	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0744 mg/L	0.08 mg/L	93.0	70.0	130	----
Total Metals (QCLot: 1656934)										
VA24C3931-014	Anonymous	Mercury, total	7439-97-6	E508	0.0000850 mg/L	0 mg/L	85.0	70.0	130	----
Total Metals (QCLot: 1656935)										
YL2401444-008	MW2106-240910	Mercury, total	7439-97-6	E508	0.0000887 mg/L	0 mg/L	88.7	70.0	130	----
Dissolved Metals (QCLot: 1653465)										
VA24C3828-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0744 mg/L	0.08 mg/L	93.0	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: 1653466)										
VA24C3828-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.382 mg/L	0.4 mg/L	95.5	70.0	130	----
VA24C3828-002	Anonymous	Antimony, dissolved	7440-36-0	E421	0.0380 mg/L	0.04 mg/L	95.0	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0392 mg/L	0.04 mg/L	98.1	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.0371 mg/L	0.04 mg/L	92.8	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0704 mg/L	0.08 mg/L	88.0	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0174 mg/L	0.02 mg/L	87.1	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.170 mg/L	0.2 mg/L	84.8	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	ND mg/L	----	ND	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0208 mg/L	0.02 mg/L	104	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0744 mg/L	0.08 mg/L	93.0	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0371 mg/L	0.04 mg/L	92.9	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0345 mg/L	0.04 mg/L	86.4	70.0	130	----
		Iron, dissolved	7439-89-6	E421	3.64 mg/L	4 mg/L	90.9	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0353 mg/L	0.04 mg/L	88.4	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.174 mg/L	0.2 mg/L	87.2	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	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0735 mg/L	0.08 mg/L	91.8	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	19.7 mg/L	20 mg/L	98.7	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0360 mg/L	0.04 mg/L	90.1	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0779 mg/L	0.08 mg/L	97.4	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	17.2 mg/L	20 mg/L	86.1	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00635 mg/L	0.008 mg/L	79.4	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	0.0817 mg/L	0.08 mg/L	102	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00676 mg/L	0.008 mg/L	84.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0362 mg/L	0.04 mg/L	90.4	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0381 mg/L	0.04 mg/L	95.2	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0696 mg/L	0.08 mg/L	87.0	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0364 mg/L	0.04 mg/L	90.9	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00715 mg/L	0.008 mg/L	89.4	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.193 mg/L	0.2 mg/L	96.5	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	ND mg/L	----	ND	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0785 mg/L	0.08 mg/L	98.1	70.0	130	----
Dissolved Metals (QCLot: 1655598)										
FJ2402724-006	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000925 mg/L	0 mg/L	92.5	70.0	130	----
Dissolved Metals (QCLot: 1655618)										
VA24C3192-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000986 mg/L	0 mg/L	98.6	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: 1655619)										
YL2401444-007	SNP431-240910	Mercury, dissolved	7439-97-6	E509	0.0000865 mg/L	0 mg/L	86.5	70.0	130	----
Volatile Organic Compounds (QCLot: 1654814)										
VA24C3792-002	Anonymous	Benzene	71-43-2	E611A	86.6 µg/L	100 µg/L	86.6	60.0	140	----
		Ethylbenzene	100-41-4	E611A	81.8 µg/L	100 µg/L	81.8	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	106 µg/L	100 µg/L	106	60.0	140	----
		Styrene	100-42-5	E611A	79.4 µg/L	100 µg/L	79.4	60.0	140	----
		Toluene	108-88-3	E611A	82.9 µg/L	100 µg/L	82.9	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	199 µg/L	200 µg/L	99.7	60.0	140	----
		Xylene, o-	95-47-6	E611A	83.2 µg/L	100 µg/L	83.2	60.0	140	----
Hydrocarbons (QCLot: 1654815)										
VA24C4088-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	4150 µg/L	6310 µg/L	65.7	60.0	140	----

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CERTIFICATE OF ANALYSIS

Work Order	: **YL2401445**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: Saskatchewan Research Council
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife Northwest Territories Canada X1A 0G5	Address	: 143 - 111 Research Drive Saskatoon SK Canada S7N 3R2
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 11-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 01-Oct-2024
C-O-C number	: ----	Issue Date	: 02-Oct-2024 13:03
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	SNP431-240910	TB-240910	----	----	----
				Client sampling date / time	10-Sep-2024 19:08	10-Sep-2024 00:00	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401445-001	YL2401445-002	----	----	----
					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	: **YL2401445**	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	: 11-Sep-2024 09:02
PO	: YEL218	Issue Date	: 02-Oct-2024 13:04
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)										
SNP431-240910	Ra-226	10-Sep-2024	----	----	----		01-Oct-2024	----	21 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE (nitric acid)										
TB-240910	Ra-226	10-Sep-2024	----	----	----		01-Oct-2024	----	21 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	: **YL2401445**	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	: 11-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 01-Oct-2024
C-O-C number	: ----	Issue Date	: 02-Oct-2024 13:03
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 # 2024-11700

Oct 02, 2024

ALS
314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Date Samples Received: Sep-17-2024 Client P.O.: YL2401445

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 # 2024-11700

Oct 02, 2024

ALS

314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Sample #:	**2024032178**	Client PO #:	**YL2401445**
Date Sampled:	**Sep 10, 2024**	Date Received:	**Sep 17, 2024**
Sample Matrix:	**WATER**		
Description:	**09/10/2024 20:08 SNP431-240910 YL2401445-001**		

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 5.1 °C upon receipt.

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SRC Group # 2024-11700

Oct 02, 2024

ALS

Sample #: **2024032179**
Date Sampled: **Sep 10, 2024**
Sample Matrix: **WATER**
Description: **09/10/2024 20:08 TB-240910 YL2401445-002**

Client PO #: **YL2401445**
Date Received: **Sep 17, 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 5.1 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

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SRC Group # 2024-11700

Oct 02, 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@parsons.com
giantdata@nrcaano-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.

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
SNP431-240910	SNP 43-1	10-Sep-24	19:08	Water			C	1									X
TB-240910	Trip Blank	10-Sep-24	-	Water			G	1									X

Relinquished by (Sampler Signature): Keenan Kakfwi — Tikkalla

Date/Time: 2024-September-11 9:02

Company: SLR Consulting

Received by (Name): Simon Arlooktoo

Received by (Signature)

Company: ALS

SEPT 11/24

Sample Receipt Temperature (deg. C): 5.0

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
YL2401445

Telephone : +1 867 873 5593

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401475**	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	: 13-Sep-2024 09:00
PO	: YEL218	Date Analysis Commenced	: 16-Sep-2024
C-O-C number	: ----	Issue Date	: 21-Sep-2024 16:01
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

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
Courtney Cox	Analyst- General	Inorganics, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Leon Yang	Analyst	Inorganics, 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
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*
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).*
DTMF	*Dissolved concentration exceeds total for field-filtered metals sample. Metallic contaminants may have been introduced to dissolved sample during field filtration.*

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2107-240911	MW2108-240911	DUP-MW2108-240911	----	----
				Client sampling date / time	11-Sep-2024 18:23	11-Sep-2024 19:51	11-Sep-2024 19:51	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401475-001	YL2401475-002	YL2401475-003	--------	--------
					Result	Result	Result	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	274	375	377	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	25.8	22.2	22.4	----	----
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	12.9	11.1	11.2	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	300	397	399	----	----
Conductivity	----	E100/VA	1.0	µS/cm	794	1320	1310	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	14.9	201	206	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	36.0	216	212	----	----
pH	----	E108/VA	0.10	pH units	8.80	8.52	8.52	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	586	924	881	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	2.6	31.0	31.7	----	----
Turbidity	----	E121/VA	0.10	NTU	5.23	19.0	18.4	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0350	0.311	0.310	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.250 DLDS	<0.250 DLDS	<0.250 DLDS	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	2.55	43.9	43.9	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.249	0.123	0.124	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.344	<0.0250 DLDS	<0.0250 DLDS	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.344	<0.0255	<0.0255	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0050 DLDS	<0.0050 DLDS	<0.0050 DLDS	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	12.9	18.2	18.4	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	124	269	268	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	3.42	8.91	9.04	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	4.26	8.92	8.74	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	8.69	14.8	14.8	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2107-240911	MW2108-240911	DUP-MW2108-240911	----	----
				Client sampling date / time	11-Sep-2024 18:23	11-Sep-2024 19:51	11-Sep-2024 19:51	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401475-001	YL2401475-002	YL2401475-003	--------	--------
					Result	Result	Result	----	----
Ion Balance									
Cation sum	----	EC101/VA	0.10	meq/L	8.57	14.5	14.9	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-0.70	-1.02	0.34	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.253	0.630	0.599	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00093	0.00051	0.00050	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00980	0.0256	0.0251	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0130	0.0432	0.0420	----	----
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	<0.000050	<0.000050	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.269	0.505	0.509	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000334	0.0000472	0.0000410	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	11.4	53.6	52.3	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000019	0.000024	0.000022	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00045	0.00252	0.00234	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	0.00252	0.00234	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00029	0.00104	0.00100	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00254	0.00269	0.00265	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.572	1.56	1.55	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000382	0.000911	0.000916	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0108	0.0278	0.0267	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	1.82	19.9	19.8	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0202	0.935	0.940	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	0.0000070	<0.0000050	<0.0000050	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0171	0.00398	0.00407	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00330	0.00330	0.00330	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	0.311	0.204	0.200	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	2.14	1.95	1.96	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00078	0.00131	0.00137	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000765	0.000118	0.000140	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	5.18	9.70	9.55	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2107-240911	MW2108-240911	DUP-MW2108-240911	----	----
				Client sampling date / time	11-Sep-2024 18:23	11-Sep-2024 19:51	11-Sep-2024 19:51	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401475-001	YL2401475-002	YL2401475-003	--------	--------
					Result	Result	Result	----	----
Total Metals									
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000118	0.000136	0.000122	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	201	250	250	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0430	0.420	0.417	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	50.5	97.5	96.4	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000012	0.000021	0.000024	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	0.00016	0.00039	0.00038	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	0.00092	0.00050	0.00050	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00739	0.0240	0.0232	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00135	0.00220	0.00209	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00522	0.00177	0.00178	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00098	0.00190	0.00178	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0088	0.0125	0.0123	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00042	0.00082	0.00082	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0523	0.129	0.129	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00096	0.00037	0.00039	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.0190 DTMF	0.0369 DTMF	0.0371 DTMF	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.00617	0.0415	0.0424	----	----
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	<0.000050	<0.000050	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.294	0.588	0.579	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000082	0.0000190	0.0000186	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	4.69	48.6	49.5	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00012	0.00055	0.00062	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	0.00055	0.00062	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00010	0.00074	0.00081	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00128	0.00106	0.00111	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.080	1.10	1.14	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2107-240911	MW2108-240911	DUP-MW2108-240911	----	----
				Client sampling date / time	11-Sep-2024 18:23	11-Sep-2024 19:51	11-Sep-2024 19:51	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401475-001	YL2401475-002	YL2401475-003	--------	--------
					Result	Result	Result	----	----
Dissolved Metals									
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	0.000091	0.000364	0.000358	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0146 DTMF	0.0256	0.0258 DTMF	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	0.766	19.4	20.0	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00184	0.848	0.870	----	----
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	0.00830	0.00395	0.00403	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00112	0.00272	0.00278	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	0.389	0.259	0.287	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	1.44	2.02	2.13	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00053	0.00109	0.00116	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000878	0.000097	0.000086	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	6.00	9.11	9.29	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	0.000025	0.000026	0.000049	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	189	238	245	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.0200	0.399	0.413	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	42.8	96.4	97.0	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	0.00022	0.00033	0.00037	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00120 DLM	0.00424	<0.00420 DLM	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00205 DTMF	0.00248	0.00249	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00255	0.00167	0.00168	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	0.00068	0.00085	0.00087	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0086	0.0090	0.0087	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	0.00044	0.00043	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401475**	Page	: 1 of 17
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	: 13-Sep-2024 09:00
PO	: YEL218	Issue Date	: 21-Sep-2024 16:01
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

- 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-MW2108-240911	E298	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW2107-240911	E298	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW2108-240911	E298	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	18-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE DUP-MW2108-240911	E235.Br-L	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW2107-240911	E235.Br-L	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW2108-240911	E235.Br-L	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP-MW2108-240911	E235.Cl	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-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
Anions and Nutrients : Chloride in Water by IC										
HDPE MW2107-240911	E235.Cl	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW2108-240911	E235.Cl	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-MW2108-240911	E235.F	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW2107-240911	E235.F	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW2108-240911	E235.F	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE DUP-MW2108-240911	E235.NO3-L	11-Sep-2024	16-Sep-2024	3 days	5 days	✖ EHT	16-Sep-2024	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW2107-240911	E235.NO3-L	11-Sep-2024	16-Sep-2024	3 days	5 days	✖ EHT	16-Sep-2024	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW2108-240911	E235.NO3-L	11-Sep-2024	16-Sep-2024	3 days	5 days	✖ EHT	16-Sep-2024	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE DUP-MW2108-240911	E235.NO2-L	11-Sep-2024	16-Sep-2024	3 days	5 days	✖ EHT	16-Sep-2024	3 days	5 days	✖ EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: 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 MW2107-240911	E235.NO2-L	11-Sep-2024	16-Sep-2024	3 days	5 days	✗ EHT	16-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW2108-240911	E235.NO2-L	11-Sep-2024	16-Sep-2024	3 days	5 days	✗ EHT	16-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE DUP-MW2108-240911	E392	11-Sep-2024	----	----	----		19-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW2107-240911	E392	11-Sep-2024	----	----	----		19-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW2108-240911	E392	11-Sep-2024	----	----	----		19-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE DUP-MW2108-240911	E235.SO4	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW2107-240911	E235.SO4	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW2108-240911	E235.SO4	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) DUP-MW2108-240911	E421.Cr-L	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-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 Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW2107-240911	E421.Cr-L	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW2108-240911	E421.Cr-L	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-MW2108-240911	E509	11-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW2107-240911	E509	11-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW2108-240911	E509	11-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) DUP-MW2108-240911	E421	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW2107-240911	E421	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW2108-240911	E421	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) DUP-MW2108-240911	E358-L	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW2107-240911	E358-L	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW2108-240911	E358-L	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) DUP-MW2108-240911	E355-L	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW2107-240911	E355-L	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW2108-240911	E355-L	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-MW2108-240911	E290	11-Sep-2024	16-Sep-2024	14 days	5 days	✓	16-Sep-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW2107-240911	E290	11-Sep-2024	16-Sep-2024	14 days	5 days	✓	16-Sep-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW2108-240911	E290	11-Sep-2024	16-Sep-2024	14 days	5 days	✓	16-Sep-2024	14 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-MW2108-240911	E100	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE MW2107-240911	E100	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE MW2108-240911	E100	11-Sep-2024	16-Sep-2024	28 days	5 days	✓	16-Sep-2024	28 days	5 days	✓
Physical Tests : pH by Meter										
HDPE DUP-MW2108-240911	E108	11-Sep-2024	16-Sep-2024	0.25 hrs	114 hrs	✗ EHTR-FM	16-Sep-2024	0.25 hrs	120 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW2108-240911	E108	11-Sep-2024	16-Sep-2024	0.25 hrs	114 hrs	✗ EHTR-FM	16-Sep-2024	0.25 hrs	120 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW2107-240911	E108	11-Sep-2024	16-Sep-2024	0.25 hrs	115 hrs	✗ EHTR-FM	16-Sep-2024	0.25 hrs	122 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE DUP-MW2108-240911	E162-L	11-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW2107-240911	E162-L	11-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW2108-240911	E162-L	11-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] DUP-MW2108-240911	E160-L	11-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW2107-240911	E160-L	11-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW2108-240911	E160-L	11-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-MW2108-240911	E121	11-Sep-2024	----	----	----		19-Sep-2024	3 days	8 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW2107-240911	E121	11-Sep-2024	----	----	----		19-Sep-2024	3 days	8 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW2108-240911	E121	11-Sep-2024	----	----	----		19-Sep-2024	3 days	8 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) DUP-MW2108-240911	E420.Cr-L	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW2107-240911	E420.Cr-L	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW2108-240911	E420.Cr-L	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	19-Sep-2024	180 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) DUP-MW2108-240911	E508	11-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-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 Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW2107-240911	E508	11-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW2108-240911	E508	11-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) DUP-MW2108-240911	E420	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW2107-240911	E420	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW2108-240911	E420	11-Sep-2024	19-Sep-2024	180 days	8 days	✓	20-Sep-2024	180 days	9 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	1653893	1	6	16.6	5.0	✓
Ammonia by Fluorescence	E298	1653743	1	7	14.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1653897	1	9	11.1	5.0	✓
Chloride in Water by IC	E235.Cl	1653896	1	10	10.0	5.0	✓
Conductivity in Water	E100	1653894	1	5	20.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1654056	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1662524	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1654055	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1653740	1	14	7.1	5.0	✓
Fluoride in Water by IC	E235.F	1653895	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1653898	1	10	10.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1653899	1	10	10.0	5.0	✓
pH by Meter	E108	1653892	1	6	16.6	5.0	✓
Reactive Silica by Colourimetry	E392	1661615	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1653900	1	10	10.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1659714	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653834	1	13	7.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653832	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1653739	1	14	7.1	5.0	✓
Turbidity by Nephelometry	E121	1662001	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1653893	1	6	16.6	5.0	✓
Ammonia by Fluorescence	E298	1653743	1	7	14.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1653897	1	9	11.1	5.0	✓
Chloride in Water by IC	E235.Cl	1653896	1	10	10.0	5.0	✓
Conductivity in Water	E100	1653894	1	5	20.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1654056	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1662524	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1654055	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1653740	1	14	7.1	5.0	✓
Fluoride in Water by IC	E235.F	1653895	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1653898	1	10	10.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1653899	1	10	10.0	5.0	✓
pH by Meter	E108	1653892	1	6	16.6	5.0	✓
Reactive Silica by Colourimetry	E392	1661615	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							
Sulfate in Water by IC	E235.SO4	1653900	1	10	10.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1659714	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653834	1	13	7.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653832	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1653739	1	14	7.1	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1659716	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1662001	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1653893	1	6	16.6	5.0	✓
Ammonia by Fluorescence	E298	1653743	1	7	14.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1653897	1	9	11.1	5.0	✓
Chloride in Water by IC	E235.Cl	1653896	1	10	10.0	5.0	✓
Conductivity in Water	E100	1653894	1	5	20.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1654056	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1662524	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1654055	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1653740	1	14	7.1	5.0	✓
Fluoride in Water by IC	E235.F	1653895	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1653898	1	10	10.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1653899	1	10	10.0	5.0	✓
Reactive Silica by Colourimetry	E392	1661615	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1653900	1	10	10.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1659714	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653834	1	13	7.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653832	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1653739	1	14	7.1	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1659716	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1662001	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1653743	1	7	14.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1653897	1	9	11.1	5.0	✓
Chloride in Water by IC	E235.Cl	1653896	1	10	10.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1654056	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1662524	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1654055	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1653740	1	14	7.1	5.0	✓
Fluoride in Water by IC	E235.F	1653895	1	10	10.0	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1653898	1	10	10.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1653899	1	10	10.0	5.0	✓
Reactive Silica by Colourimetry	E392	1661615	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1653900	1	10	10.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653834	1	13	7.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653832	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1653739	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 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.
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).

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

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401475**	Page	: 1 of 17
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	: 13-Sep-2024 09:00
PO	: YEL218	Date Analysis Commenced	: 16-Sep-2024
C-O-C number	: ----	Issue Date	: 21-Sep-2024 16:01
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
Courtney Cox	Analyst- General	Vancouver Inorganics, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Vancouver Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Leon Yang	Analyst	Vancouver Inorganics, 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: 1653892)											
FJ2402724-001	Anonymous	pH	----	E108	0.10	pH units	8.30	8.30	0.00%	4%	----
Physical Tests (QC Lot: 1653893)											
YL2401471-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	60.6	60.4	0.330%	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	60.6	60.4	0.330%	20%	----
Physical Tests (QC Lot: 1653894)											
FJ2402724-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	228	234	2.60%	10%	----
Physical Tests (QC Lot: 1659714)											
YL2401475-001	MW2107-240911	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	586	581	0.942%	20%	----
Physical Tests (QC Lot: 1662001)											
VA24C4277-003	Anonymous	Turbidity	----	E121	0.10	NTU	1.48	1.42	4.14%	15%	----
Anions and Nutrients (QC Lot: 1653743)											
YL2401475-001	MW2107-240911	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0350	0.0357	0.0007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1653895)											
FJ2402724-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.096	0.095	0.001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1653896)											
FJ2402724-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	8.91	8.89	0.163%	20%	----
Anions and Nutrients (QC Lot: 1653897)											
FJ2402724-001	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: 1653898)											
FJ2402724-001	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: 1653899)											
FJ2402724-001	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: 1653900)											
FJ2402724-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	18.4	18.4	0.149%	20%	----
Anions and Nutrients (QC Lot: 1661615)											
CG2413209-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	5.00	mg/L	138	142	2.95%	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: 1653739)											
FJ2402724-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	2.21	2.38	0.17	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1653740)											
FJ2402724-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	2.02	2.17	0.15	Diff <2x LOR	----
Total Metals (QC Lot: 1653832)											
YL2401448-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0956	0.104	8.32%	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	0.00079	0.00074	0.00005	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0364	0.0358	1.54%	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	0.060	0.061	0.0009	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000075	0.0000056	0.0000019	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	22.9	23.6	3.21%	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	0.00095	0.00093	0.00002	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.055	0.058	0.003	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000075	0.000074	0.000001	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0036	0.0037	0.00006	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	3.54	3.54	0.0978%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00190	0.00190	0.164%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00419	0.00417	0.630%	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	2.96	2.94	0.471%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00232	0.00230	1.24%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000083	<0.000050	0.000033	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	2.80	2.81	0.335%	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	6.78	6.68	1.50%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.141	0.140	0.514%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	5.13	4.88	5.03%	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: 1653832) - continued											
YL2401448-001	Anonymous	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	0.00208	0.00240	0.00032	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	0.00172	0.00171	0.684%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00147	0.00150	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	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1653834)											
YL2401448-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00043	0.00042	0.000007	Diff <2x LOR	----
Total Metals (QC Lot: 1662439)											
YL2401456-011	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1654055)											
VA24C4124-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0094	0.0093	0.0001	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00112	0.00114	2.02%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00183	0.00186	1.83%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.00774	0.00786	1.42%	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	0.054	0.054	0.0004	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000083	0.0000058	0.0000025	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	283	284	0.319%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000232	0.000243	4.66%	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	0.00234	0.00234	0.0198%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00088	0.00087	0.000009	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	0.0061	0.0059	0.0002	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	74.9	73.9	1.35%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.434	0.442	1.92%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000597	0.000655	9.34%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00280	0.00277	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
Dissolved Metals (QC Lot: 1654055) - continued											
VA24C4124-001	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	12.7	12.7	0.0913%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00990	0.00994	0.418%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000091	0.000064	0.000026	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.32	2.23	3.72%	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	24.4	23.9	2.06%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.808	0.828	2.44%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	351	341	3.01%	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	0.000656	0.000658	0.226%	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	0.0056	0.0056	0.00008	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: 1654056)											
VA24C4124-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00024	0.00022	0.00002	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1662524)											
VA24C4128-005	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1653893)						
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: 1653894)						
Conductivity	----	E100	1	µS/cm	1.0	----
Physical Tests (QCLot: 1659714)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1659716)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1662001)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1653743)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1653895)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1653896)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1653897)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1653898)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1653899)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1653900)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1661615)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1653739)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1653740)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1653740) - continued						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1653832)						
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: 1653832) - 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: 1653834)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1662439)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1654055)						
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: 1654055) - 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: 1654056)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1662524)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1653892)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1653893)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	89.3	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1653894)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	96.0	90.0	110	----
Physical Tests (QCLot: 1659714)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	111	85.0	115	----
Physical Tests (QCLot: 1659716)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	97.2	85.0	115	----
Physical Tests (QCLot: 1662001)									
Turbidity	----	E121	0.1	NTU	200 NTU	96.5	85.0	115	----
Anions and Nutrients (QCLot: 1653743)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1653895)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1653896)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1653897)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1653898)									
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: 1653899)									
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: 1653900)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1661615)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	101	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1653739)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	97.3	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: 1653740)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Total Metals (QCLot: 1653832)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	103	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	106	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	107	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	98.0	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	97.9	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	116	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	105	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	107	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	97.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	102	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	101	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	99.5	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	101	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	105	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	105	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	101	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	102	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	112	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.0	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	116	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	108	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	103	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	106	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	98.0	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.0	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: 1653832) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	95.0	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.9	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	98.5	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	104	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Total Metals (QCLot: 1653834)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Total Metals (QCLot: 1662439)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	98.4	80.0	120	----
Dissolved Metals (QCLot: 1654055)									
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	98.8	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	100	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	100	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	114	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	97.5	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	96.9	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	100	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	98.3	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	97.4	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	99.4	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	96.2	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	99.2	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	101	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	106	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	106	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	97.9	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: 1654055) - 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	91.1	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	101	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	84.1	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	97.7	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.2	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	97.7	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	97.0	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	94.4	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	99.6	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	101	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	98.2	80.0	120	----
Dissolved Metals (QCLot: 1654056)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	94.8	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1653743)										
YL2401475-002	MW2108-240911	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1653895)										
FJ2402724-006	Anonymous	Fluoride	16984-48-8	E235.F	0.978 mg/L	1 mg/L	97.8	75.0	125	----
Anions and Nutrients (QCLot: 1653896)										
FJ2402724-006	Anonymous	Chloride	16887-00-6	E235.Cl	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1653897)										
FJ2402724-006	Anonymous	Bromide	24959-67-9	E235.Br-L	0.500 mg/L	0.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1653898)										
FJ2402724-006	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.52 mg/L	2.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1653899)										
FJ2402724-006	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.509 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1653900)										
FJ2402724-006	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	99.8 mg/L	100 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1661615)										
CG2413209-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1653739)										
VA24C4128-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	9.38 mg/L	10 mg/L	93.8	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1653740)										
VA24C4128-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	9.05 mg/L	10 mg/L	90.5	70.0	130	----
Total Metals (QCLot: 1653832)										
YL2401448-002	Anonymous	Aluminum, total	7429-90-5	E420	0.196 mg/L	0.2 mg/L	98.2	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0188 mg/L	0.02 mg/L	94.1	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0194 mg/L	0.02 mg/L	97.2	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0383 mg/L	0.04 mg/L	95.7	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00895 mg/L	0.01 mg/L	89.5	70.0	130	----
		Boron, total	7440-42-8	E420	0.088 mg/L	0.1 mg/L	87.9	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00387 mg/L	0.004 mg/L	96.7	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0103 mg/L	0.01 mg/L	103	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0393 mg/L	0.04 mg/L	98.2	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0182 mg/L	0.02 mg/L	91.3	70.0	130	----
		Copper, total	7440-50-8	E420	0.0190 mg/L	0.02 mg/L	94.8	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: 1653832) - continued										
YL2401448-002	Anonymous	Iron, total	7439-89-6	E420	1.96 mg/L	2 mg/L	97.8	70.0	130	----
		Lead, total	7439-92-1	E420	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0945 mg/L	0.1 mg/L	94.5	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0181 mg/L	0.02 mg/L	90.3	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0381 mg/L	0.04 mg/L	95.4	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.93 mg/L	10 mg/L	99.3	70.0	130	----
		Potassium, total	7440-09-7	E420	3.69 mg/L	4 mg/L	92.3	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0191 mg/L	0.02 mg/L	95.6	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0379 mg/L	0.04 mg/L	94.8	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	0.00374 mg/L	0.004 mg/L	93.4	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	18.9 mg/L	20 mg/L	94.7	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00372 mg/L	0.004 mg/L	93.0	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0190 mg/L	0.02 mg/L	95.3	70.0	130	----
		Tin, total	7440-31-5	E420	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0382 mg/L	0.04 mg/L	95.4	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0188 mg/L	0.02 mg/L	94.2	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00376 mg/L	0.004 mg/L	94.1	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0969 mg/L	0.1 mg/L	96.9	70.0	130	----
		Zinc, total	7440-66-6	E420	0.365 mg/L	0.4 mg/L	91.3	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0396 mg/L	0.04 mg/L	99.1	70.0	130	----
Total Metals (QCLot: 1653834)										
YL2401448-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0393 mg/L	0.04 mg/L	98.2	70.0	130	----
Total Metals (QCLot: 1662439)										
YL2401475-001	MW2107-240911	Mercury, total	7439-97-6	E508	0.0000924 mg/L	0 mg/L	92.4	70.0	130	----
Dissolved Metals (QCLot: 1654055)										
VA24C4124-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.399 mg/L	0.4 mg/L	99.7	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0423 mg/L	0.04 mg/L	106	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0740 mg/L	0.08 mg/L	92.5	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0188 mg/L	0.02 mg/L	93.9	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.184 mg/L	0.2 mg/L	91.8	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	ND mg/L	----	ND	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0787 mg/L	0.08 mg/L	98.4	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0389 mg/L	0.04 mg/L	97.2	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: 1654055) - continued										
VA24C4124-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
		Iron, dissolved	7439-89-6	E421	3.74 mg/L	4 mg/L	93.5	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0376 mg/L	0.04 mg/L	94.0	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.175 mg/L	0.2 mg/L	87.6	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	0.0402 mg/L	0.04 mg/L	100	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0781 mg/L	0.08 mg/L	97.7	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	21.7 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	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0796 mg/L	0.08 mg/L	99.4	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	17.8 mg/L	20 mg/L	89.2	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00631 mg/L	0.008 mg/L	78.9	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	0.0828 mg/L	0.08 mg/L	104	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00746 mg/L	0.008 mg/L	93.2	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0421 mg/L	0.04 mg/L	105	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0387 mg/L	0.04 mg/L	96.6	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0783 mg/L	0.08 mg/L	97.9	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00795 mg/L	0.008 mg/L	99.3	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.203 mg/L	0.2 mg/L	102	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	ND mg/L	----	ND	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0784 mg/L	0.08 mg/L	98.0	70.0	130	----
Dissolved Metals (QCLot: 1654056)										
VA24C4124-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0787 mg/L	0.08 mg/L	98.4	70.0	130	----
Dissolved Metals (QCLot: 1662524)										
VA24C4452-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000940 mg/L	0 mg/L	94.0	70.0	130	----

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
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**			
MW2107-240911	MW21-07	11-Sep-24	18:23	Water			G	8	X	X	X									
MW2108-240911	MW21-08	11-Sep-24	19:51	Water			G	8	X	X	X									
DUP-MW2108-240911	MW21-08	11-Sep-24	19:51	Water			G	8	X	X	X									

Relinquished by (Sampler Signature): Cara Kalancha
Date/Time: 2024-September-13 9:00
Company: SLR Consulting

Received by (Name): Simon Arlooktoo
Received by (Signature)
Company: ALS SEPT 13/24

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 0.1
Samples Received in Good Condition? Yes / No (If no, provide details.)
On cooling media Y N

YL2401475

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401477**	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	: 13-Sep-2024 09:00
PO	: YEL218	Date Analysis Commenced	: 16-Sep-2024
C-O-C number	: ----	Issue Date	: 23-Sep-2024 15:27
Sampler	: ----		
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

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*
Aaron Jaurigue	Analyst	Metals, Burnaby, British Columbia
Chamoi Beckford	Lab Assistant	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, 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

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
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.

Sample Comments

Sample	Client Id	*Comment*
YL2401477-002	MW012A-240912	Water sample for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

Qualifiers

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

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	SDIAND011A-240912	MW012A-240912	MW012B-240912	SDIAND013B-240912	----
				Client sample ID	SDIAND011A-240912	MW012A-240912	MW012B-240912	SDIAND013B-240912	----
				Client sampling date / time	12-Sep-2024 11:05	12-Sep-2024 13:00	12-Sep-2024 14:10	12-Sep-2024 16:10	----
					YL2401477-001	YL2401477-002	YL2401477-003	YL2401477-004	--------
					Result	Result	Result	Result	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	190	301	280	661	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	4.8	25.2	10.8	<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	2.4	12.6	5.4	<1.0	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	195	326	290	661	----
Conductivity	----	E100/VA	1.0	µS/cm	1860	1240	1480	4270	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1000	358	682	2950	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	1050	381	721	3080	----
pH	----	E108/VA	0.10	pH units	8.34	8.59	8.40	8.14	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	1610	800	1240	4520	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	13.4	1.7	5.4	9.2	----
Turbidity	----	E121/VA	0.10	NTU	8.79	1.72	18.8	21.8	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0068	0.414	0.480	3.07	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.500 DLDS	0.758	0.631	1.18	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	44.8	73.8	61.5	87.8	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.200 DLDS	0.237	<0.100 DLDS	<0.400 DLDS	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	6.39	<0.0250 DLDS	<0.0250 DLDS	0.183	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	6.39	<0.0255	<0.0255	0.204	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0100 DLDS	<0.0050 DLDS	<0.0050 DLDS	0.0212	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	13.4	11.9	12.8	1.74	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	951	233	472	2450	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	11.7	9.71	6.29	28.6	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	12.0	9.76	6.57	28.8	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	25.4	13.5	17.4	66.7	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND011A-240912	MW012A-240912	MW012B-240912	SDIAND013B-240912	----
				Client sampling date / time	12-Sep-2024 11:05	12-Sep-2024 13:00	12-Sep-2024 14:10	12-Sep-2024 16:10	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401477-001	YL2401477-002	YL2401477-003	YL2401477-004	--------
					Result	Result	Result	Result	----
Ion Balance									
Cation sum	----	EC101/VA	0.10	meq/L	22.2	12.3	17.0	65.2	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-6.72	-4.65	-1.16	-1.14	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.376	0.0167	0.0284	0.0404	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.604	0.00047	0.00097	1.23	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	2.17	0.0198	0.0240	0.832	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0295	0.186	0.136	0.0138	----
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	<0.000050	<0.000050	<0.000100 DLA	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.400	0.266	0.156	2.21	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000925	<0.0000050	0.0000130	0.0329	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	313	90.1	182	523	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000079	<0.000010	<0.000010	0.000076	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00096	0.00015	0.00027	0.00028	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	0.00096	<0.00050	<0.00050	<0.00100 DLA	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00616	0.00736	0.00578	0.398	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00653	<0.00050	0.00058	0.0354	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.566	0.246	2.28	6.88	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.00226	0.000226	0.00259	0.00499	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0550	0.0431	0.0358	0.0822	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	66.2	37.8	64.8	431	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0251	0.288	1.12	5.41	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	0.0000095	<0.0000050	<0.0000050	0.0000358	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0180	0.000156	0.000150	0.0347	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00420	<0.00050	0.00058	0.283	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	0.084	0.174	0.132	0.112	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	13.3	11.8	8.68	23.0	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00108	0.00234	0.00308	0.0177	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000558	<0.000050	0.000072	0.000972	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	7.26	5.63	6.03	11.5	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND011A-240912	MW012A-240912	MW012B-240912	SDIAND013B-240912	----
				Client sampling date / time	12-Sep-2024 11:05	12-Sep-2024 13:00	12-Sep-2024 14:10	12-Sep-2024 16:10	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401477-001	YL2401477-002	YL2401477-003	YL2401477-004	--------
					Result	Result	Result	Result	----
Total Metals									
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000050	<0.000010	0.000054	0.000213	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	47.7	138	82.9	122	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.697	1.56	1.70	1.06	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	311	78.0	172	871	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	0.00029	0.00027	<0.00040 DLA	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000014	<0.000010	<0.000010	0.000291	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	0.00012	<0.00010	<0.00010	<0.00020 DLA	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00020 DLA	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.0100	0.00066	<0.00120 DLM	<0.00150 DLM	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00021	0.00232	0.00057	0.00027	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.0151	0.00384	0.00566	0.0304	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00431	<0.00050	0.00097	<0.00100 DLA	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0233	<0.0030	0.0084	9.04	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00038	0.00024	0.00072	<0.00040 DLA	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0027	0.0012	0.0037	0.0063	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.605	0.00030	0.00067	1.19	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	1.98	0.0169	0.0161	0.598	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0291	0.182	0.132	0.0139	----
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	<0.000050	<0.000050	<0.000050	<0.000100 DLA	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.466	0.295	0.170	2.48	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000765	<0.0000050	<0.0000050	0.0305	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	296	84.0	168	496	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000046	<0.000010	<0.000010	0.000074	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00016	<0.00010	0.00014	<0.00020 DLA	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00100 DLA	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00582	0.00640	0.00554	0.391	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00555	<0.00020	<0.00020	0.0261	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.031	0.167	2.16	5.69	----

Analytical Results

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

				Client sample ID	SDIAND011A-240912	MW012A-240912	MW012B-240912	SDIAND013B-240912	----
				Client sampling date / time	12-Sep-2024 11:05	12-Sep-2024 13:00	12-Sep-2024 14:10	12-Sep-2024 16:10	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401477-001	YL2401477-002	YL2401477-003	YL2401477-004	--------
					Result	Result	Result	Result	----
Dissolved Metals									
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	0.000118	<0.000050	<0.000050	0.000191	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0515	0.0388	0.0338	0.0767	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	64.2	35.9	63.7	416	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.0209	0.301	1.09	5.07	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	0.0000138	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.0184	0.000144	0.000115	0.0356	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00338	<0.00050	0.00051	0.276	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	0.106	0.221	0.122	0.113	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	12.4	11.0	8.18	21.3	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00074	0.00204	0.00310	0.0173	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000518	0.000061	0.000079	0.000744	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	6.27	5.90	5.83	11.0	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	0.000084	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	41.7	112	69.8	111	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.683	1.56	1.65	1.04	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	297	65.3	165	839	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00040 DLA	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	0.000271	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00020 DLA	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00020 DLA	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00060 DLA	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00016	0.00167	0.00059	<0.00020 DLA	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.0156	0.00443	0.00604	0.0323	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	0.00332	<0.00050	0.00077	<0.00100 DLA	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0253	<0.0010	0.0038	8.44	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	0.00022	0.00027	0.00062	<0.00040 DLA	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401477**	Page	: 1 of 20
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	: 13-Sep-2024 09:00
PO	: YEL218	Issue Date	: 23-Sep-2024 15:28
C-O-C number	: ----		
Sampler	: ----		
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) MW012A-240912	E298	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	18-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW012B-240912	E298	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	18-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND011A-240912	E298	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	18-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND013B-240912	E298	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW012A-240912	E235.Br-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW012B-240912	E235.Br-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SDIAND011A-240912	E235.Br-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-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 : Bromide in Water by IC (Low Level)										
HDPE SDIAND013B-240912	E235.Br-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW012A-240912	E235.Cl	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW012B-240912	E235.Cl	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SDIAND011A-240912	E235.Cl	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SDIAND013B-240912	E235.Cl	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW012A-240912	E235.F	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW012B-240912	E235.F	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND011A-240912	E235.F	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND013B-240912	E235.F	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-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: 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 MW012A-240912	E235.NO3-L	12-Sep-2024	16-Sep-2024	3 days	4 days	✗ EHT	16-Sep-2024	3 days	4 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW012B-240912	E235.NO3-L	12-Sep-2024	16-Sep-2024	3 days	4 days	✗ EHT	16-Sep-2024	3 days	4 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND011A-240912	E235.NO3-L	12-Sep-2024	16-Sep-2024	3 days	4 days	✗ EHT	16-Sep-2024	3 days	4 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND013B-240912	E235.NO3-L	12-Sep-2024	16-Sep-2024	3 days	4 days	✗ EHT	16-Sep-2024	3 days	4 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW012A-240912	E235.NO2-L	12-Sep-2024	16-Sep-2024	3 days	4 days	✗ EHT	16-Sep-2024	3 days	4 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW012B-240912	E235.NO2-L	12-Sep-2024	16-Sep-2024	3 days	4 days	✗ EHT	16-Sep-2024	3 days	4 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SDIAND011A-240912	E235.NO2-L	12-Sep-2024	16-Sep-2024	3 days	4 days	✗ EHT	16-Sep-2024	3 days	4 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SDIAND013B-240912	E235.NO2-L	12-Sep-2024	16-Sep-2024	3 days	4 days	✗ EHT	16-Sep-2024	3 days	4 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW012A-240912	E392	12-Sep-2024	----	----	----		19-Sep-2024	28 days	7 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW012B-240912	E392	12-Sep-2024	----	----	----		19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SDIAND011A-240912	E392	12-Sep-2024	----	----	----		19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SDIAND013B-240912	E392	12-Sep-2024	----	----	----		19-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW012A-240912	E235.SO4	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW012B-240912	E235.SO4	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SDIAND011A-240912	E235.SO4	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SDIAND013B-240912	E235.SO4	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW012A-240912	E421.Cr-L	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	19-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW012B-240912	E421.Cr-L	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	19-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				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) SDIAND011A-240912	E421.Cr-L	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	19-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SDIAND013B-240912	E421.Cr-L	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	19-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW012A-240912	E509	12-Sep-2024	19-Sep-2024	28 days	7 days	✓	19-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW012B-240912	E509	12-Sep-2024	19-Sep-2024	28 days	7 days	✓	19-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND011A-240912	E509	12-Sep-2024	19-Sep-2024	28 days	7 days	✓	19-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND013B-240912	E509	12-Sep-2024	19-Sep-2024	28 days	7 days	✓	19-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW012A-240912	E421	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW012B-240912	E421	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND011A-240912	E421	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND013B-240912	E421	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW012A-240912	E358-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW012B-240912	E358-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND011A-240912	E358-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND013B-240912	E358-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW012A-240912	E355-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW012B-240912	E355-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND011A-240912	E355-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND013B-240912	E355-L	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	16-Sep-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 : Alkalinity Species by Titration										
HDPE MW012A-240912	E290	12-Sep-2024	16-Sep-2024	14 days	4 days	✓	18-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW012B-240912	E290	12-Sep-2024	16-Sep-2024	14 days	4 days	✓	18-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND011A-240912	E290	12-Sep-2024	16-Sep-2024	14 days	4 days	✓	18-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND013B-240912	E290	12-Sep-2024	16-Sep-2024	14 days	4 days	✓	18-Sep-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW012A-240912	E100	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	18-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW012B-240912	E100	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	18-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND011A-240912	E100	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	18-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND013B-240912	E100	12-Sep-2024	16-Sep-2024	28 days	4 days	✓	18-Sep-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE SDIAND013B-240912	E108	12-Sep-2024	16-Sep-2024	0.25 hrs	92 hrs	✗ EHTR-FM	18-Sep-2024	0.25 hrs	140 hrs	✗ EHTR-FM

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE MW012B-240912	E108	12-Sep-2024	16-Sep-2024	0.25 hrs	94 hrs	✗ EHTR-FM	18-Sep-2024	0.25 hrs	142 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW012A-240912	E108	12-Sep-2024	16-Sep-2024	0.25 hrs	95 hrs	✗ EHTR-FM	18-Sep-2024	0.25 hrs	143 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SDIAND011A-240912	E108	12-Sep-2024	16-Sep-2024	0.25 hrs	97 hrs	✗ EHTR-FM	18-Sep-2024	0.25 hrs	145 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW012A-240912	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW012B-240912	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND013B-240912	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND011A-240912	E162-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW012A-240912	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW012B-240912	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SDIAND013B-240912	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SDIAND011A-240912	E160-L	12-Sep-2024	----	----	----		19-Sep-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MW012A-240912	E121	12-Sep-2024	----	----	----		19-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW012B-240912	E121	12-Sep-2024	----	----	----		19-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SDIAND011A-240912	E121	12-Sep-2024	----	----	----		19-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SDIAND013B-240912	E121	12-Sep-2024	----	----	----		19-Sep-2024	3 days	7 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW012A-240912	E420.Cr-L	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	19-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW012B-240912	E420.Cr-L	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	19-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SDIAND013B-240912	E420.Cr-L	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	19-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				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) SDIAND011A-240912	E420.Cr-L	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	19-Sep-2024	180 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved) MW012A-240912	E508	12-Sep-2024	20-Sep-2024	0 hrs	182 hrs	✗ UCP	20-Sep-2024	0 hrs	182 hrs	✗ UCP
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND013B-240912	E508	12-Sep-2024	20-Sep-2024	28 days	7 days	✓	20-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW012B-240912	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND011A-240912	E508	12-Sep-2024	20-Sep-2024	28 days	8 days	✓	20-Sep-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW012A-240912	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW012B-240912	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SDIAND011A-240912	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SDIAND013B-240912	E420	12-Sep-2024	19-Sep-2024	180 days	7 days	✓	20-Sep-2024	180 days	8 days	✓

Legend & Qualifier Definitions

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

EHT: Exceeded ALS recommended hold time prior to analysis.

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

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1653478	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1653743	1	7	14.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1653483	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1653482	1	20	5.0	5.0	✓
Conductivity in Water	E100	1653480	1	4	25.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1654056	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1660333	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1654055	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1653740	1	14	7.1	5.0	✓
Fluoride in Water by IC	E235.F	1653481	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1653484	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1653485	1	20	5.0	5.0	✓
pH by Meter	E108	1653479	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1661615	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1653486	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1659714	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653834	1	13	7.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653832	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1653739	1	14	7.1	5.0	✓
Turbidity by Nephelometry	E121	1662001	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1653478	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1653743	1	7	14.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1653483	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1653482	1	20	5.0	5.0	✓
Conductivity in Water	E100	1653480	1	4	25.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1654056	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1660333	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1654055	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1653740	1	14	7.1	5.0	✓
Fluoride in Water by IC	E235.F	1653481	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1653484	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1653485	1	20	5.0	5.0	✓
pH by Meter	E108	1653479	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1661615	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							
Sulfate in Water by IC	E235.SO4	1653486	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1659714	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653834	1	13	7.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653832	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1653739	1	14	7.1	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1659716	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1662001	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1653478	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1653743	1	7	14.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1653483	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1653482	1	20	5.0	5.0	✓
Conductivity in Water	E100	1653480	1	4	25.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1654056	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1660333	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1654055	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1653740	1	14	7.1	5.0	✓
Fluoride in Water by IC	E235.F	1653481	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1653484	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1653485	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1661615	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1653486	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1659714	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653834	1	13	7.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653832	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1653739	1	14	7.1	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1659716	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1662001	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1653743	1	7	14.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1653483	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1653482	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1654056	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1660333	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1654055	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1653740	1	14	7.1	5.0	✓
Fluoride in Water by IC	E235.F	1653481	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							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1653484	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1653485	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1661615	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1653486	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1653834	1	13	7.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1662439	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1653832	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1653739	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 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.
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).

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

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401477**	Page	: 1 of 17
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	: 13-Sep-2024 09:00
PO	: YEL218	Date Analysis Commenced	: 16-Sep-2024
C-O-C number	: ----	Issue Date	: 23-Sep-2024 15:27
Sampler	: ----		
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*
Aaron Jaurigue	Analyst	Vancouver Metals, Burnaby, British Columbia
Chamoi Beckford	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Vancouver Metals, 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

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: 1653478)											
YL2401477-001	SDIAND011A-240912	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	190	191	0.210%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	4.8	4.4	8.70%	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	2.4	2.2	0.2	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	195	195	0.00%	20%	----
Physical Tests (QC Lot: 1653479)											
YL2401477-001	SDIAND011A-240912	pH	----	E108	0.10	pH units	8.34	8.34	0.00%	4%	----
Physical Tests (QC Lot: 1653480)											
YL2401477-001	SDIAND011A-240912	Conductivity	----	E100	1.0	µS/cm	1860	1850	0.431%	10%	----
Physical Tests (QC Lot: 1659714)											
YL2401475-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	586	581	0.942%	20%	----
Physical Tests (QC Lot: 1662001)											
VA24C4277-003	Anonymous	Turbidity	----	E121	0.10	NTU	1.48	1.42	4.14%	15%	----
Anions and Nutrients (QC Lot: 1653481)											
VA24C4187-001	Anonymous	Fluoride	16984-48-8	E235.F	0.400	mg/L	<0.400	<0.400	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1653482)											
VA24C4187-001	Anonymous	Chloride	16887-00-6	E235.Cl	10.0	mg/L	<10.0	<10.0	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1653483)											
VA24C4187-001	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: 1653484)											
VA24C4187-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1653485)											
VA24C4187-001	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: 1653486)											
VA24C4187-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	6.00	mg/L	4180	3860	7.86%	20%	----
Anions and Nutrients (QC Lot: 1653743)											
YL2401475-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0350	0.0357	0.0007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1661615)											
CG2413209-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	5.00	mg/L	138	142	2.95%	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: 1653739)											
FJ2402724-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	2.21	2.38	0.17	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1653740)											
FJ2402724-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	2.02	2.17	0.15	Diff <2x LOR	----
Total Metals (QC Lot: 1653832)											
YL2401448-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0956	0.104	8.32%	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	0.00079	0.00074	0.00005	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0364	0.0358	1.54%	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	0.060	0.061	0.0009	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000075	0.0000056	0.0000019	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	22.9	23.6	3.21%	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	0.00095	0.00093	0.00002	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.055	0.058	0.003	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000075	0.000074	0.000001	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0036	0.0037	0.00006	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	3.54	3.54	0.0978%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00190	0.00190	0.164%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00419	0.00417	0.630%	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	2.96	2.94	0.471%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00232	0.00230	1.24%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000083	<0.000050	0.000033	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	2.80	2.81	0.335%	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	6.78	6.68	1.50%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.141	0.140	0.514%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	5.13	4.88	5.03%	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: 1653832) - continued											
YL2401448-001	Anonymous	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	0.00208	0.00240	0.00032	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	0.00172	0.00171	0.684%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00147	0.00150	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	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1653834)											
YL2401448-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00043	0.00042	0.000007	Diff <2x LOR	----
Total Metals (QC Lot: 1662439)											
YL2401456-011	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1654055)											
VA24C4124-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0094	0.0093	0.0001	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00112	0.00114	2.02%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00183	0.00186	1.83%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.00774	0.00786	1.42%	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	0.054	0.054	0.0004	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000083	0.0000058	0.0000025	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	283	284	0.319%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000232	0.000243	4.66%	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	0.00234	0.00234	0.0198%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00088	0.00087	0.000009	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	0.0061	0.0059	0.0002	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	74.9	73.9	1.35%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.434	0.442	1.92%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000597	0.000655	9.34%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00280	0.00277	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
Dissolved Metals (QC Lot: 1654055) - continued											
VA24C4124-001	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	12.7	12.7	0.0913%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00990	0.00994	0.418%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000091	0.000064	0.000026	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.32	2.23	3.72%	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	24.4	23.9	2.06%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.808	0.828	2.44%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	351	341	3.01%	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	0.000656	0.000658	0.226%	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	0.0056	0.0056	0.00008	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: 1654056)											
VA24C4124-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00024	0.00022	0.00002	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1660333)											
VA24C3976-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1653478)						
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: 1653480)						
Conductivity	----	E100	1	µS/cm	1.2	----
Physical Tests (QCLot: 1659714)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1659716)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1662001)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1653481)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1653482)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1653483)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1653484)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1653485)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1653486)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1653743)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1661615)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1653739)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1653740)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1653740) - continued						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1653832)						
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: 1653832) - 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: 1653834)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1662439)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1654055)						
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: 1654055) - 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: 1654056)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1660333)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1653478)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	99.4	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	109	85.0	115	----
Physical Tests (QCLot: 1653479)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1653480)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	102	90.0	110	----
Physical Tests (QCLot: 1659714)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	111	85.0	115	----
Physical Tests (QCLot: 1659716)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	97.2	85.0	115	----
Physical Tests (QCLot: 1662001)									
Turbidity	----	E121	0.1	NTU	200 NTU	96.5	85.0	115	----
Anions and Nutrients (QCLot: 1653481)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1653482)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1653483)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	99.5	85.0	115	----
Anions and Nutrients (QCLot: 1653484)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1653485)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1653486)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1653743)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1661615)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	101	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1653739)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	97.3	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: 1653740)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Total Metals (QCLot: 1653832)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	103	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	106	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	107	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	98.0	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	97.9	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	116	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	105	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	107	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	97.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	102	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	101	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	99.5	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	101	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	105	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	105	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	101	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	102	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	112	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.0	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	116	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	108	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	103	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	106	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	98.0	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.0	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: 1653832) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	95.0	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.9	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	98.5	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	104	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Total Metals (QCLot: 1653834)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Total Metals (QCLot: 1662439)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	98.4	80.0	120	----
Dissolved Metals (QCLot: 1654055)									
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	98.8	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	100	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	100	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	114	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	97.5	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	96.9	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	100	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	98.3	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	97.4	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	99.4	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	96.2	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	99.2	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	101	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	106	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	106	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	97.9	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: 1654055) - 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	91.1	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	101	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	84.1	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	97.7	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.2	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	97.7	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	97.0	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	94.4	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	99.6	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	101	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	98.2	80.0	120	----
Dissolved Metals (QCLot: 1654056)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	100	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1653481)										
VA24C4187-002	Anonymous	Fluoride	16984-48-8	E235.F	51.9 mg/L	50 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1653482)										
VA24C4187-002	Anonymous	Chloride	16887-00-6	E235.Cl	4980 mg/L	5000 mg/L	99.6	75.0	125	----
Anions and Nutrients (QCLot: 1653483)										
VA24C4187-002	Anonymous	Bromide	24959-67-9	E235.Br-L	24.0 mg/L	25 mg/L	95.9	75.0	125	----
Anions and Nutrients (QCLot: 1653484)										
VA24C4187-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	124 mg/L	125 mg/L	99.0	75.0	125	----
Anions and Nutrients (QCLot: 1653485)										
VA24C4187-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	24.7 mg/L	25 mg/L	99.0	75.0	125	----
Anions and Nutrients (QCLot: 1653486)										
VA24C4187-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	4790 mg/L	5000 mg/L	95.8	75.0	125	----
Anions and Nutrients (QCLot: 1653743)										
YL2401475-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1661615)										
CG2413209-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1653739)										
VA24C4128-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	9.38 mg/L	10 mg/L	93.8	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1653740)										
VA24C4128-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	9.05 mg/L	10 mg/L	90.5	70.0	130	----
Total Metals (QCLot: 1653832)										
YL2401448-002	Anonymous	Aluminum, total	7429-90-5	E420	0.196 mg/L	0.2 mg/L	98.2	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0188 mg/L	0.02 mg/L	94.1	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0194 mg/L	0.02 mg/L	97.2	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0383 mg/L	0.04 mg/L	95.7	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00895 mg/L	0.01 mg/L	89.5	70.0	130	----
		Boron, total	7440-42-8	E420	0.088 mg/L	0.1 mg/L	87.9	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00387 mg/L	0.004 mg/L	96.7	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0103 mg/L	0.01 mg/L	103	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0393 mg/L	0.04 mg/L	98.2	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0182 mg/L	0.02 mg/L	91.3	70.0	130	----
		Copper, total	7440-50-8	E420	0.0190 mg/L	0.02 mg/L	94.8	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: 1653832) - continued										
YL2401448-002	Anonymous	Iron, total	7439-89-6	E420	1.96 mg/L	2 mg/L	97.8	70.0	130	----
		Lead, total	7439-92-1	E420	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0945 mg/L	0.1 mg/L	94.5	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0181 mg/L	0.02 mg/L	90.3	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0381 mg/L	0.04 mg/L	95.4	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.93 mg/L	10 mg/L	99.3	70.0	130	----
		Potassium, total	7440-09-7	E420	3.69 mg/L	4 mg/L	92.3	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0191 mg/L	0.02 mg/L	95.6	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0379 mg/L	0.04 mg/L	94.8	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	0.00374 mg/L	0.004 mg/L	93.4	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	18.9 mg/L	20 mg/L	94.7	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00372 mg/L	0.004 mg/L	93.0	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0190 mg/L	0.02 mg/L	95.3	70.0	130	----
		Tin, total	7440-31-5	E420	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0382 mg/L	0.04 mg/L	95.4	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0188 mg/L	0.02 mg/L	94.2	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00376 mg/L	0.004 mg/L	94.1	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0969 mg/L	0.1 mg/L	96.9	70.0	130	----
		Zinc, total	7440-66-6	E420	0.365 mg/L	0.4 mg/L	91.3	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0396 mg/L	0.04 mg/L	99.1	70.0	130	----
Total Metals (QCLot: 1653834)										
YL2401448-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0393 mg/L	0.04 mg/L	98.2	70.0	130	----
Total Metals (QCLot: 1662439)										
YL2401475-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000924 mg/L	0 mg/L	92.4	70.0	130	----
Dissolved Metals (QCLot: 1654055)										
VA24C4124-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.399 mg/L	0.4 mg/L	99.7	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0423 mg/L	0.04 mg/L	106	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0740 mg/L	0.08 mg/L	92.5	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0188 mg/L	0.02 mg/L	93.9	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.184 mg/L	0.2 mg/L	91.8	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	ND mg/L	----	ND	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0787 mg/L	0.08 mg/L	98.4	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0389 mg/L	0.04 mg/L	97.2	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: 1654055) - continued										
VA24C4124-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
		Iron, dissolved	7439-89-6	E421	3.74 mg/L	4 mg/L	93.5	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0376 mg/L	0.04 mg/L	94.0	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.175 mg/L	0.2 mg/L	87.6	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	0.0402 mg/L	0.04 mg/L	100	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0781 mg/L	0.08 mg/L	97.7	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	21.7 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	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0796 mg/L	0.08 mg/L	99.4	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	17.8 mg/L	20 mg/L	89.2	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00631 mg/L	0.008 mg/L	78.9	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	0.0828 mg/L	0.08 mg/L	104	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00746 mg/L	0.008 mg/L	93.2	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0421 mg/L	0.04 mg/L	105	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0387 mg/L	0.04 mg/L	96.6	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0783 mg/L	0.08 mg/L	97.9	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00795 mg/L	0.008 mg/L	99.3	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.203 mg/L	0.2 mg/L	102	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	ND mg/L	----	ND	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0784 mg/L	0.08 mg/L	98.0	70.0	130	----
Dissolved Metals (QCLot: 1654056)										
VA24C4124-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0787 mg/L	0.08 mg/L	98.4	70.0	130	----
Dissolved Metals (QCLot: 1660333)										
VA24C3976-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000970 mg/L	0 mg/L	97.0	70.0	130	----

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
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.
SDIAND011A-240912	S-DIAND-011A	12-Sep-24	11:05	GW			G	8	X	X	X								
MW01-2A	MW01-2A	12-Sep-24	13:00	GW			G	8	X	X	X								
MW01-2B	MW01-2B	12-Sep-24	14:10	GW			G	8	X	X	X								
~~SDIAND013B-240912~~ CK SDIAND013B-240912	S-DIAND-013B	12-Sep-24	16:10	GW			G	8	X	X	X								

Relinquished by (Sampler Signature/ Print): Cara Kalancha
Date/Time: 9/13/2024 9:00
Company: **SLR Consulting**

Received by (Name): Cara Kalancha
Received by (Signature)
Company: **ALS**
SEPT 13/24

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 0.1
Samples Received in Good Condition? Yes / No (If no, provide details.)
On cooling media Y / N

YL2401477

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401485**	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	: 16-Sep-2024 09:00
PO	: YEL218	Date Analysis Commenced	: 19-Sep-2024
C-O-C number	: ----	Issue Date	: 25-Sep-2024 16:36
Sampler	: ----		
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

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	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
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).*
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.*

Analytical Results

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

				Client sample ID	MW0004A-240915	MW2113-240915	ETPF-240915	ETPD-240915	----
				Client sampling date / time	15-Sep-2024 15:25	15-Sep-2024 17:00	15-Sep-2024 13:48	15-Sep-2024 13:52	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401485-001	YL2401485-002	YL2401485-003	YL2401485-004	--------
					Result	Result	Result	Result	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	294	255	159	199	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	2.6	<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	1.3	<1.0	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	294	255	162	199	----
Conductivity	----	E100/VA	1.0	µS/cm	1380	662	3300	3410	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	743	224	1400	1480	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	745	234	1410	1840	----
pH	----	E108/VA	0.10	pH units	7.89	8.17	8.30	8.22	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	1190	414	2630	2620	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	2.4	42.3	1.5	811	----
Turbidity	----	E121/VA	0.10	NTU	2.36	32.0	1.14	483	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0148	0.0080	0.0795	0.0818	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.250 DLDS	<0.050	6.34	6.45	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	4.08	3.07	517	517	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.113	0.131	<0.400 DLDS	<0.400 DLDS	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.0976	0.288	0.393	0.396	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.104	0.288	0.393	0.396	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0067	<0.0010	<0.0200 DLDS	<0.0200 DLDS	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	10.6	11.7	11.5	2.19	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	510	98.0	950	1130	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	3.85	6.46	8.30	6.59	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	3.38	6.21	7.94	6.57	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	16.6	7.25	37.7	42.2	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW0004A-240915	MW2113-240915	ETPF-240915	ETPD-240915	----
				Client sampling date / time	15-Sep-2024 15:25	15-Sep-2024 17:00	15-Sep-2024 13:48	15-Sep-2024 13:52	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401485-001	YL2401485-002	YL2401485-003	YL2401485-004	--------
					Result	Result	Result	Result	----
Ion Balance									
Cation sum	----	EC101/VA	0.10	meq/L	16.3	7.16	37.4	39.1	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-0.91	-0.62	-0.40	-3.81	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.102	1.14	<0.0600 DLA	0.427	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00247	0.00226	0.798	0.920	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.0327	0.0118	23.2	30.1	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0145	0.0510	0.0417	0.0626	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000400 DLA	<0.000400 DLA	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.00100 DLA	<0.00100 DLA	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.106	0.160	0.352	0.358	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000152	0.0000221	<0.000100 DLA	0.000145	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	182	59.0	394	551	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000031	0.000117	0.000534	0.000561	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00019	0.00261	<0.00200 DLA	0.00429	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	0.00261	<0.0100 DLA	<0.0100 DLA	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00560	0.00114	0.0110	0.0261	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00316	0.00414	<0.0100 DLA	<0.0100 DLA	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.197	1.58	<0.200 DLA	90.0	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000248	0.000828	0.00268	0.00415	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0565	0.0114	0.0330	0.0351	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	70.6	21.0	103	114	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0690	0.294	0.0451	0.152	----
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	0.00343	0.00328	0.0204	0.0216	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00142	0.00302	0.0232	0.0516	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	0.688	0.127	<1.00 DLA	<1.00 DLA	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	7.14	2.16	12.7	13.5	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00188	0.00201	0.0120	0.0134	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.00125	0.000320	<0.00100 DLA	<0.00100 DLA	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	5.28	7.54	5.24	7.73	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW0004A-240915	MW2113-240915	ETPF-240915	ETPD-240915	----
				Client sampling date / time	15-Sep-2024 15:25	15-Sep-2024 17:00	15-Sep-2024 13:48	15-Sep-2024 13:52	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401485-001	YL2401485-002	YL2401485-003	YL2401485-004	--------
					Result	Result	Result	Result	----
Total Metals									
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000047	0.000018	<0.000200 DLA	<0.000200 DLA	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	27.5	59.3	205	215	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.869	0.350	5.12	5.51	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	180	32.8	312	376	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	0.00021	<0.00020	<0.00400 DLA	<0.00400 DLA	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	0.000017	<0.000200 DLA	<0.000200 DLA	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00080 DLM	<0.00200 DLA	<0.00200 DLA	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	0.00043	<0.00200 DLA	<0.00200 DLA	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00360 DLM	0.0468	<0.00600 DLA	0.117	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00180	0.00017	<0.00200 DLA	<0.00200 DLA	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.0554	0.00489	0.00630	0.00774	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00114	0.00350	<0.0100 DLA	0.193	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0082	0.0086	<0.0600 DLA	<0.0600 DLA	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00080 DLM	<0.00400 DLA	<0.00400 DLA	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0084	<0.0010	<0.0200 DLA	0.0124	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00237	0.00192	0.755	0.234	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.0332	0.00744	23.8	0.153	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0136	0.0386	0.0414	0.0156	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000400 DLA	<0.000100 DLA	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000050	<0.00100 DLA	<0.000100 DLA	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.103	0.158	0.369	0.338	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000158	<0.0000050	0.000100	<0.0000100 DLA	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	177	55.4	379	418	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000027	<0.000010	0.000564	0.000561	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00200 DLA	0.00039	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00050	<0.0100 DLA	<0.00100 DLA	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00532	<0.00010	0.0114	0.00819	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00217	0.00162	0.00602	0.00176	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.110	<0.010	<0.200 DLA	<0.020 DLA	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW0004A-240915	MW2113-240915	ETPF-240915	ETPD-240915	----
				Client sampling date / time	15-Sep-2024 15:25	15-Sep-2024 17:00	15-Sep-2024 13:48	15-Sep-2024 13:52	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401485-001	YL2401485-002	YL2401485-003	YL2401485-004	--------
					Result	Result	Result	Result	----
Dissolved Metals									
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	0.000051	<0.000050	0.00219	<0.000100 DLA	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0548	0.0100	0.0337	0.0359	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	73.2	20.7	109	105	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.0681	0.00534	0.0414	0.00500	----
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	0.00345	0.00322	0.0193	0.0171	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00132	0.00075	0.0235	0.00390	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	0.678	<0.050	<1.00 DLA	<0.100 DLA	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	7.66	2.05	13.0	13.6	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00189	0.00079	0.0113	0.0120	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.00135	0.000408	<0.00100 DLA	0.000107 DTSE	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	5.25	6.15	5.34	1.23	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000200 DLA	<0.000020 DLA	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	28.7	60.7	210	213	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.872	0.337	4.90	4.38	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	173	32.9	286	380	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00400 DLA	<0.00040 DLA	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000200 DLA	<0.000020 DLA	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00200 DLA	<0.00020 DLA	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00200 DLA	<0.00020 DLA	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00060 DLM	<0.00030	<0.00600 DLA	<0.00060 DLA	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00179	<0.00010	<0.00200 DLA	0.00034	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.0520	0.00434	0.00610	0.00296	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	0.00088	0.00052	<0.0100 DLA	<0.00100 DLA	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0064	0.0015	<0.0200 DLA	<0.0020 DLA	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00400 DLA	<0.00040 DLA	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401485**	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	: 16-Sep-2024 09:00
PO	: YEL218	Issue Date	: 25-Sep-2024 16:37
C-O-C number	: ----		
Sampler	: ----		
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 Matrix Spike outliers occur.
- Laboratory Control Sample (LCS) 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
Laboratory Control Sample (LCS) Recoveries								
Dissolved Metals	QC-MRG2-1663878 002	----	Sulfur, dissolved	7704-34-9	E421	78.1 % MES	80.0-120%	Recovery less than lower control limit

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) ETPD-240915	E298	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) ETPF-240915	E298	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW0004A-240915	E298	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW2113-240915	E298	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE ETPD-240915	E235.Br-L	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE ETPF-240915	E235.Br-L	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW0004A-240915	E235.Br-L	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW2113-240915	E235.Br-L	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE ETPD-240915	E235.Cl	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE ETPF-240915	E235.Cl	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW0004A-240915	E235.Cl	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW2113-240915	E235.Cl	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE ETPD-240915	E235.F	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE ETPF-240915	E235.F	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW0004A-240915	E235.F	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW2113-240915	E235.F	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-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
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE ETPD-240915	E235.NO3-L	15-Sep-2024	20-Sep-2024	3 days	5 days	✗ EHT	20-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE ETPF-240915	E235.NO3-L	15-Sep-2024	20-Sep-2024	3 days	5 days	✗ EHT	20-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW0004A-240915	E235.NO3-L	15-Sep-2024	20-Sep-2024	3 days	5 days	✗ EHT	20-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW2113-240915	E235.NO3-L	15-Sep-2024	20-Sep-2024	3 days	5 days	✗ EHT	20-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE ETPD-240915	E235.NO2-L	15-Sep-2024	20-Sep-2024	3 days	5 days	✗ EHT	20-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE ETPF-240915	E235.NO2-L	15-Sep-2024	20-Sep-2024	3 days	5 days	✗ EHT	20-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW0004A-240915	E235.NO2-L	15-Sep-2024	20-Sep-2024	3 days	5 days	✗ EHT	20-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW2113-240915	E235.NO2-L	15-Sep-2024	20-Sep-2024	3 days	5 days	✗ EHT	20-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE ETPD-240915	E392	15-Sep-2024	----	----	----		23-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 : Reactive Silica by Colourimetry										
HDPE ETPF-240915	E392	15-Sep-2024	----	----	----		23-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW0004A-240915	E392	15-Sep-2024	----	----	----		23-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW2113-240915	E392	15-Sep-2024	----	----	----		23-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE ETPD-240915	E235.SO4	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE ETPF-240915	E235.SO4	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW0004A-240915	E235.SO4	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW2113-240915	E235.SO4	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) ETPD-240915	E421.Cr-L	15-Sep-2024	22-Sep-2024	180 days	7 days	✓	23-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) ETPF-240915	E421.Cr-L	15-Sep-2024	22-Sep-2024	180 days	7 days	✓	23-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 Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW0004A-240915	E421.Cr-L	15-Sep-2024	22-Sep-2024	180 days	7 days	✓	23-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW2113-240915	E421.Cr-L	15-Sep-2024	22-Sep-2024	180 days	7 days	✓	23-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) ETPD-240915	E509	15-Sep-2024	22-Sep-2024	28 days	7 days	✓	22-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) ETPF-240915	E509	15-Sep-2024	22-Sep-2024	28 days	7 days	✓	22-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW0004A-240915	E509	15-Sep-2024	22-Sep-2024	28 days	7 days	✓	22-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW2113-240915	E509	15-Sep-2024	22-Sep-2024	28 days	7 days	✓	22-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) ETPD-240915	E421	15-Sep-2024	22-Sep-2024	180 days	7 days	✓	24-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) ETPF-240915	E421	15-Sep-2024	22-Sep-2024	180 days	7 days	✓	24-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW0004A-240915	E421	15-Sep-2024	22-Sep-2024	180 days	7 days	✓	24-Sep-2024	180 days	9 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
MW2113-240915	E421	15-Sep-2024	22-Sep-2024	180 days	7 days	✓	24-Sep-2024	180 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
ETPD-240915	E358-L	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	19-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
ETPF-240915	E358-L	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	19-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
MW0004A-240915	E358-L	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	19-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
MW2113-240915	E358-L	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	19-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
ETPD-240915	E355-L	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	19-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
ETPF-240915	E355-L	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	19-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MW0004A-240915	E355-L	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	19-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MW2113-240915	E355-L	15-Sep-2024	19-Sep-2024	28 days	4 days	✓	19-Sep-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 : Alkalinity Species by Titration										
HDPE ETPD-240915	E290	15-Sep-2024	20-Sep-2024	14 days	5 days	✓	20-Sep-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE ETPF-240915	E290	15-Sep-2024	20-Sep-2024	14 days	5 days	✓	20-Sep-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW0004A-240915	E290	15-Sep-2024	20-Sep-2024	14 days	5 days	✓	20-Sep-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW2113-240915	E290	15-Sep-2024	20-Sep-2024	14 days	5 days	✓	20-Sep-2024	14 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE ETPD-240915	E100	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE ETPF-240915	E100	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE MW0004A-240915	E100	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE MW2113-240915	E100	15-Sep-2024	20-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	5 days	✓
Physical Tests : pH by Meter										
HDPE MW2113-240915	E108	15-Sep-2024	20-Sep-2024	0.25 hrs	111 hrs	✖ EHTR-FM	20-Sep-2024	0.25 hrs	112 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 MW0004A-240915	E108	15-Sep-2024	20-Sep-2024	0.25 hrs	113 hrs	✗ EHTR-FM	20-Sep-2024	0.25 hrs	114 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE ETPD-240915	E108	15-Sep-2024	20-Sep-2024	0.25 hrs	115 hrs	✗ EHTR-FM	20-Sep-2024	0.25 hrs	115 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE ETPF-240915	E108	15-Sep-2024	20-Sep-2024	0.25 hrs	115 hrs	✗ EHTR-FM	20-Sep-2024	0.25 hrs	115 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE ETPD-240915	E162-L	15-Sep-2024	----	----	----		20-Sep-2024	7 days	5 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE ETPF-240915	E162-L	15-Sep-2024	----	----	----		20-Sep-2024	7 days	5 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW0004A-240915	E162-L	15-Sep-2024	----	----	----		20-Sep-2024	7 days	5 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW2113-240915	E162-L	15-Sep-2024	----	----	----		20-Sep-2024	7 days	5 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] ETPD-240915	E160-L	15-Sep-2024	----	----	----		20-Sep-2024	7 days	5 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] ETPF-240915	E160-L	15-Sep-2024	----	----	----		20-Sep-2024	7 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW0004A-240915	E160-L	15-Sep-2024	----	----	----		20-Sep-2024	7 days	5 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW2113-240915	E160-L	15-Sep-2024	----	----	----		20-Sep-2024	7 days	5 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE ETPD-240915	E121	15-Sep-2024	----	----	----		22-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE ETPF-240915	E121	15-Sep-2024	----	----	----		22-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW0004A-240915	E121	15-Sep-2024	----	----	----		22-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW2113-240915	E121	15-Sep-2024	----	----	----		22-Sep-2024	3 days	7 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) ETPD-240915	E420.Cr-L	15-Sep-2024	21-Sep-2024	180 days	6 days	✓	22-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) ETPF-240915	E420.Cr-L	15-Sep-2024	21-Sep-2024	180 days	6 days	✓	22-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW0004A-240915	E420.Cr-L	15-Sep-2024	21-Sep-2024	180 days	6 days	✓	22-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				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) MW2113-240915	E420.Cr-L	15-Sep-2024	21-Sep-2024	180 days	6 days	✓	22-Sep-2024	180 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) ETPD-240915	E508	15-Sep-2024	22-Sep-2024	28 days	7 days	✓	22-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) ETPF-240915	E508	15-Sep-2024	22-Sep-2024	28 days	7 days	✓	22-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW0004A-240915	E508	15-Sep-2024	22-Sep-2024	28 days	7 days	✓	22-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW2113-240915	E508	15-Sep-2024	22-Sep-2024	28 days	7 days	✓	22-Sep-2024	28 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) ETPD-240915	E420	15-Sep-2024	21-Sep-2024	180 days	6 days	✓	23-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) ETPF-240915	E420	15-Sep-2024	21-Sep-2024	180 days	6 days	✓	23-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW0004A-240915	E420	15-Sep-2024	21-Sep-2024	180 days	6 days	✓	23-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW2113-240915	E420	15-Sep-2024	21-Sep-2024	180 days	6 days	✓	23-Sep-2024	180 days	8 days	✓

Legend & Qualifier Definitions

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

EHT: Exceeded ALS recommended hold time prior to analysis.

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1662655	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1662292	1	10	10.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1662664	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1662660	1	10	10.0	5.0	✓
Conductivity in Water	E100	1662656	1	11	9.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1663879	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1666521	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1663878	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1662293	1	13	7.6	5.0	✓
Fluoride in Water by IC	E235.F	1662663	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1662658	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1662659	1	11	9.0	5.0	✓
pH by Meter	E108	1662654	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1667023	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1662662	1	10	10.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1664394	1	18	5.5	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1663850	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1666349	1	18	5.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1663848	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1662291	1	8	12.5	5.0	✓
Turbidity by Nephelometry	E121	1666039	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1662655	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1662292	1	10	10.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1662664	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1662660	1	10	10.0	5.0	✓
Conductivity in Water	E100	1662656	1	11	9.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1663879	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1666521	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1663878	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1662293	1	13	7.6	5.0	✓
Fluoride in Water by IC	E235.F	1662663	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1662658	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1662659	1	11	9.0	5.0	✓
pH by Meter	E108	1662654	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1667023	1	17	5.8	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Sulfate in Water by IC	E235.SO4	1662662	1	10	10.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1664394	1	18	5.5	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1663850	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1666349	1	18	5.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1663848	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1662291	1	8	12.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1664412	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1666039	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1662655	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1662292	1	10	10.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1662664	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1662660	1	10	10.0	5.0	✓
Conductivity in Water	E100	1662656	1	11	9.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1663879	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1666521	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1663878	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1662293	1	13	7.6	5.0	✓
Fluoride in Water by IC	E235.F	1662663	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1662658	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1662659	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1667023	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1662662	1	10	10.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1664394	1	18	5.5	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1663850	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1666349	1	18	5.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1663848	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1662291	1	8	12.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1664412	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1666039	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1662292	1	10	10.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1662664	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1662660	1	10	10.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1663879	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1666521	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1663878	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1662293	1	13	7.6	5.0	✓
Fluoride in Water by IC	E235.F	1662663	1	8	12.5	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*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1662658	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1662659	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1667023	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1662662	1	10	10.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1663850	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1666349	1	18	5.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1663848	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1662291	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 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.
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).

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

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401485**	Page	: 1 of 17
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-Sep-2024 09:00
PO	: YEL218	Date Analysis Commenced	: 19-Sep-2024
C-O-C number	: ----	Issue Date	: 25-Sep-2024 16:37
Sampler	: ----		
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*
Dan Gebert	Laboratory Analyst	Vancouver Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	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: 1662654)											
YL2401485-002	MW2113-240915	pH	----	E108	0.10	pH units	8.17	8.19	0.244%	4%	----
Physical Tests (QC Lot: 1662655)											
YL2401485-002	MW2113-240915	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	255	256	0.391%	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	255	256	0.391%	20%	----
Physical Tests (QC Lot: 1662656)											
YL2401485-002	MW2113-240915	Conductivity	----	E100	1.0	µS/cm	662	658	0.606%	10%	----
Physical Tests (QC Lot: 1664394)											
EO2408093-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	634	620	2.23%	20%	----
Physical Tests (QC Lot: 1666039)											
VA24C4878-004	Anonymous	Turbidity	----	E121	0.10	NTU	1.20	1.12	0.08	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662292)											
FJ2402788-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0386	0.0392	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662658)											
YL2401485-001	MW0004A-240915	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	0.0976	0.0964	0.0012	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662659)											
YL2401485-001	MW0004A-240915	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	0.0067	0.0062	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662660)											
VA24C4765-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662662)											
VA24C4765-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	0.89	0.89	0.003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662663)											
YL2401485-001	MW0004A-240915	Fluoride	16984-48-8	E235.F	0.100	mg/L	0.113	0.118	0.005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662664)											
YL2401485-001	MW0004A-240915	Bromide	24959-67-9	E235.Br-L	0.250	mg/L	<0.250	<0.250	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1667023)											
YL2401485-001	MW0004A-240915	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	10.6	10.6	0.0149%	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: 1662291)											
YL2401485-001	MW0004A-240915	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	3.38	3.49	0.11	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1662293)											
FJ2402788-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	2.77	3.07	0.31	Diff <2x LOR	----
Total Metals (QC Lot: 1663848)											
YL2401485-001	MW0004A-240915	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.102	0.108	5.16%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00247	0.00246	0.118%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.0327	0.0330	0.730%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0145	0.0147	1.12%	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	0.106	0.103	2.95%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000152	0.0000155	0.0000003	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	182	176	3.26%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000031	0.000031	0.00000005	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	0.00560	0.00571	1.95%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00316	0.00324	0.00007	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.197	0.206	4.47%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000248	0.000252	0.000004	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0565	0.0520	8.24%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	70.6	72.1	2.10%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0690	0.0697	0.924%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00343	0.00338	1.55%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00142	0.00146	0.00004	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.688	0.685	0.414%	20%	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	7.14	7.38	3.36%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00188	0.00193	0.00006	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.00125	0.00149	17.9%	20%	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	5.28	5.50	3.96%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000047	0.000047	0.0000001	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	27.5	27.9	1.38%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.869	0.841	3.28%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	180	185	2.60%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00021	<0.00020	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
Total Metals (QC Lot: 1663848) - continued											
YL2401485-001	MW0004A-240915	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	0.00360	mg/L	<0.00360	<0.00360	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00180	0.00183	1.95%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.0554	0.0542	2.17%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00114	0.00111	0.00003	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0082	0.0086	0.0004	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: 1663850)											
YL2401485-001	MW0004A-240915	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00019	0.00023	0.00004	Diff <2x LOR	----
Total Metals (QC Lot: 1666349)											
VA24C3965-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1663878)											
YL2401485-001	MW0004A-240915	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0084	0.0079	0.0005	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00237	0.00236	0.580%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.0332	0.0336	1.04%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0136	0.0134	1.65%	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	0.103	0.105	2.57%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000158	0.0000178	0.0000020	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	177	177	0.0186%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000027	0.000025	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	0.00532	0.00545	2.44%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00217	0.00217	0.0495%	20%	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.110	0.108	2.45%	20%	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	0.000051	0.000051	0.000000005	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0548	0.0561	2.37%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	73.2	74.1	1.16%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0681	0.0685	0.609%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00345	0.00339	1.67%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00132	0.00141	0.00009	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: 1663878) - continued											
YL2401485-001	MW0004A-240915	Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	0.678	0.622	8.58%	20%	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	7.66	7.42	3.17%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00189	0.00196	0.00008	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.00135	0.00148	8.90%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	5.25	5.26	0.236%	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	28.7	28.8	0.400%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.872	0.840	3.81%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	173	170	1.70%	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	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	0.00179	0.00180	0.199%	20%	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.0520	0.0538	3.47%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.00088	0.00086	0.00002	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0064	0.0064	0.00003	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: 1663879)											
YL2401485-001	MW0004A-240915	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1666521)											
FJ2402788-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1662655)						
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: 1662656)						
Conductivity	----	E100	1	µS/cm	1.1	----
Physical Tests (QCLot: 1664394)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1664412)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1666039)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1662292)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1662658)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1662659)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1662660)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1662662)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1662663)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1662664)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1667023)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1662291)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1662293)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1662293) - continued						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1663848)						
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: 1663848) - 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: 1663850)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1666349)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1663878)						
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: 1663878) - 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: 1663879)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1666521)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1662654)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1662655)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	91.0	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	99.1	85.0	115	----
Physical Tests (QCLot: 1662656)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	104	90.0	110	----
Physical Tests (QCLot: 1664394)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	111	85.0	115	----
Physical Tests (QCLot: 1664412)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	109	85.0	115	----
Physical Tests (QCLot: 1666039)									
Turbidity	----	E121	0.1	NTU	200 NTU	96.0	85.0	115	----
Anions and Nutrients (QCLot: 1662292)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1662658)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.1	90.0	110	----
Anions and Nutrients (QCLot: 1662659)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	99.5	90.0	110	----
Anions and Nutrients (QCLot: 1662660)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.2	90.0	110	----
Anions and Nutrients (QCLot: 1662662)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.5	90.0	110	----
Anions and Nutrients (QCLot: 1662663)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1662664)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1667023)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	102	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1662291)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	101	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: 1662293)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Total Metals (QCLot: 1663848)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	96.8	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	99.6	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	98.4	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	96.5	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	89.8	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	96.4	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	98.1	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	99.5	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	92.8	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	95.2	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	94.8	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	96.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	94.7	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	94.1	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	96.7	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	97.7	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	96.4	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	96.4	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	99.7	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	96.9	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	97.1	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	104	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	91.6	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	91.5	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	98.3	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	97.1	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	95.3	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: 1663848) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	92.3	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	92.0	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	99.7	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	97.4	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: 1663850)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	92.8	80.0	120	----
Total Metals (QCLot: 1666349)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	96.2	80.0	120	----
Dissolved Metals (QCLot: 1663878)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	97.5	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	100	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	93.8	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	95.1	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	96.0	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	95.7	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	97.8	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	98.6	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	94.0	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	95.0	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	93.0	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	94.3	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	94.0	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	99.5	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	95.6	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	95.2	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	98.6	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	95.9	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	99.9	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	99.0	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	93.2	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	96.6	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1663878) - continued									
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	90.3	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	105	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	96.1	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	# 78.1	80.0	120	MES
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	95.1	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	93.3	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	89.9	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	95.2	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	88.8	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	93.7	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	93.2	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	94.5	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	93.7	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	92.7	80.0	120	----
Dissolved Metals (QCLot: 1663879)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	94.0	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	91.7	80.0	120	----

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).*

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: 1662292)										
FJ2402788-002	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: 1662658)										
YL2401485-002	MW2113-240915	Nitrate (as N)	14797-55-8	E235.NO3-L	2.50 mg/L	2.5 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1662659)										
VA24C4765-002	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: 1662660)										
VA24C4765-002	Anonymous	Chloride	16887-00-6	E235.Cl	99.2 mg/L	100 mg/L	99.2	75.0	125	----
Anions and Nutrients (QCLot: 1662662)										
VA24C4765-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	100 mg/L	100 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1662663)										
YL2401485-002	MW2113-240915	Fluoride	16984-48-8	E235.F	0.998 mg/L	1 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1662664)										
YL2401485-002	MW2113-240915	Bromide	24959-67-9	E235.Br-L	0.508 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1667023)										
YL2401485-002	MW2113-240915	Silicate (as SiO2)	7631-86-9	E392	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1662291)										
YL2401485-002	MW2113-240915	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1662293)										
FJ2402788-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.83 mg/L	5 mg/L	96.7	70.0	130	----
Total Metals (QCLot: 1663848)										
YL2401485-002	MW2113-240915	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0191 mg/L	0.02 mg/L	95.4	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00870 mg/L	0.01 mg/L	87.0	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00372 mg/L	0.004 mg/L	93.1	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00956 mg/L	0.01 mg/L	95.6	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0362 mg/L	0.04 mg/L	90.6	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0180 mg/L	0.02 mg/L	90.2	70.0	130	----
		Copper, total	7440-50-8	E420	0.0174 mg/L	0.02 mg/L	87.1	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: 1663848) - continued										
YL2401485-002	MW2113-240915	Iron, total	7439-89-6	E420	1.68 mg/L	2 mg/L	84.1	70.0	130	----
		Lead, total	7439-92-1	E420	0.0174 mg/L	0.02 mg/L	86.9	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0883 mg/L	0.1 mg/L	88.3	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	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0359 mg/L	0.04 mg/L	89.8	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.56 mg/L	10 mg/L	95.6	70.0	130	----
		Potassium, total	7440-09-7	E420	3.50 mg/L	4 mg/L	87.6	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0368 mg/L	0.04 mg/L	92.1	70.0	130	----
		Silicon, total	7440-21-3	E420	8.81 mg/L	10 mg/L	88.1	70.0	130	----
		Silver, total	7440-22-4	E420	0.00369 mg/L	0.004 mg/L	92.3	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0376 mg/L	0.04 mg/L	94.0	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00352 mg/L	0.004 mg/L	88.1	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0194 mg/L	0.02 mg/L	97.2	70.0	130	----
		Tin, total	7440-31-5	E420	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Titanium, total	7440-32-6	E420	ND mg/L	----	ND	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0176 mg/L	0.02 mg/L	87.9	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0971 mg/L	0.1 mg/L	97.1	70.0	130	----
		Zinc, total	7440-66-6	E420	0.358 mg/L	0.4 mg/L	89.4	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0400 mg/L	0.04 mg/L	100	70.0	130	----
Total Metals (QCLot: 1663850)										
YL2401485-002	MW2113-240915	Chromium, total	7440-47-3	E420.Cr-L	0.0362 mg/L	0.04 mg/L	90.6	70.0	130	----
Total Metals (QCLot: 1666349)										
VA24C4019-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000908 mg/L	0 mg/L	90.8	70.0	130	----
Dissolved Metals (QCLot: 1663878)										
YL2401485-002	MW2113-240915	Aluminum, dissolved	7429-90-5	E421	0.204 mg/L	0.2 mg/L	102	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0214 mg/L	0.02 mg/L	107	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0396 mg/L	0.04 mg/L	99.1	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00871 mg/L	0.01 mg/L	87.1	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00394 mg/L	0.004 mg/L	98.5	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00972 mg/L	0.01 mg/L	97.2	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0389 mg/L	0.04 mg/L	97.4	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0195 mg/L	0.02 mg/L	97.3	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: 1663878) - continued										
YL2401485-002	MW2113-240915	Copper, dissolved	7440-50-8	E421	0.0185 mg/L	0.02 mg/L	92.7	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.86 mg/L	2 mg/L	93.0	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0178 mg/L	0.02 mg/L	88.8	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0979 mg/L	0.1 mg/L	97.9	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0188 mg/L	0.02 mg/L	94.1	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0203 mg/L	0.02 mg/L	102	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0387 mg/L	0.04 mg/L	96.8	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	4.12 mg/L	4 mg/L	103	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0391 mg/L	0.04 mg/L	97.8	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.31 mg/L	10 mg/L	93.1	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00380 mg/L	0.004 mg/L	95.1	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	0.0396 mg/L	0.04 mg/L	99.1	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00346 mg/L	0.004 mg/L	86.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0197 mg/L	0.02 mg/L	98.5	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0193 mg/L	0.02 mg/L	96.4	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	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	ND mg/L	----	ND	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.390 mg/L	0.4 mg/L	97.6	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0406 mg/L	0.04 mg/L	102	70.0	130	----
Dissolved Metals (QCLot: 1663879)										
YL2401485-002	MW2113-240915	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0389 mg/L	0.04 mg/L	97.4	70.0	130	----
Dissolved Metals (QCLot: 1666521)										
FJ2402788-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000917 mg/L	0 mg/L	91.7	70.0	130	----

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
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)

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.
√ = Preserved:									As required - Marked on bottle										
√ = Field Filtered:									As required - Marked on bottle										
√ = Standard TAT:									√	√	√	√	√	√	√	√	√	√	√
√ = 1-Day Rush:																			
MW0004A-240915	MW00-04A	15-Sep-24	15:25	GW			G	8	X	X	X								
MW2113-240915	MW21-13	15-Sep-24	17:00	GW			G	8	X	X	X								
ETPF-240915	ETP Feed	15-Sep-24	13:48	~~GW~~ SW ok			G	8	X	X	X								
ETPD-240915	ETP Discharge	15-Sep-24	13:52	~~GW~~ SW ok			G	8	X	X	X								

Relinquished by (Sampler Signature/ Print): Cara Kalancha
Date/Time: 9/16/2024 9:00
Company: **SLR Consulting**

Received by (Name): SEPT 16/24
Received by (Signature):
Company: **ALS** Simon Arlookiroo

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 28
Samples Received in Good Condition? Yes No (If no, provide details.)
On cooling media: Y N

4L2401485

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401488**	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	: 16-Sep-2024 09:00
PO	: YEL218	Date Analysis Commenced	: 19-Sep-2024
C-O-C number	: ----	Issue Date	: 25-Sep-2024 16:40
Sampler	: ----		
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

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	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
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).*
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.*

Analytical Results

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

				Client sample ID	SDIAND013A-240914	MW0003A-240914	MW0003B-240914	MW2118-240914	----
				Client sampling date / time	14-Sep-2024 08:55	14-Sep-2024 11:00	14-Sep-2024 12:05	14-Sep-2024 14:20	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401488-001	YL2401488-002	YL2401488-003	YL2401488-004	--------
					Result	Result	Result	Result	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	741	288	292	866	----
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	741	288	292	866	----
Conductivity	----	E100/VA	1.0	µS/cm	4170	2830	2930	2400	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	2680	1480	1570	1440	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	2720	1480	1560	1460	----
pH	----	E108/VA	0.10	pH units	7.08	7.87	7.92	7.75	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	4240	2460	2440	2010	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	114	4.5	10.5	<1.0	----
Turbidity	----	E121/VA	0.10	NTU	364	15.4	41.8	1.22	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	5.80	1.12	1.25	0.0409	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	1.06	2.56	2.79	<1.00 DLDS	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	67.9	205	224	96.4	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.400 DLDS	<0.400 DLDS	<0.400 DLDS	<0.400 DLDS	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.100 DLDS	<0.100 DLDS	<0.100 DLDS	0.354	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.102	<0.102	<0.102	0.354	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0200 DLDS	<0.0200 DLDS	<0.0200 DLDS	<0.0200 DLDS	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	21.8	9.64	9.90	19.4	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	2150	1150	1190	547	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	32.7	6.29	6.27	10.4	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	34.9	6.18	6.19	10.5	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	61.5	35.5	37.0	31.4	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND013A-240914	MW0003A-240914	MW0003B-240914	MW2118-240914	----
				Client sampling date / time	14-Sep-2024 08:55	14-Sep-2024 11:00	14-Sep-2024 12:05	14-Sep-2024 14:20	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401488-001	YL2401488-002	YL2401488-003	YL2401488-004	--------
					Result	Result	Result	Result	----
Ion Balance									
Cation sum	----	EC101/VA	0.10	meq/L	61.1	34.7	37.0	31.0	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-0.33	-1.14	0.0	-0.64	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.314	0.0315	0.0823	0.0183	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.710	0.00427	0.00307	0.00085	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	5.48	0.0220	0.129	0.00418	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0254	0.0284	0.0325	0.0862	----
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	0.000121	<0.000100 DLA	<0.000100 DLA	<0.000050	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	2.19	0.229	0.226	0.280	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.00806	0.0000221	0.0000122	0.000125	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	488	374	397	279	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000111	0.000081	0.000149	<0.000010	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00040	<0.00020 DLA	0.00023	0.00148	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	0.00148	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.299	0.00502	0.00674	0.00203	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00668	<0.00100 DLA	0.00305	0.00254	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	38.1	1.51	3.94	0.036	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.0823	0.000102	0.000283	0.000432	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0608	0.0384	0.0396	0.0887	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	365	133	137	186	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	4.56	1.35	1.42	0.268	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	0.0000120	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0359	0.00324	0.00522	0.00333	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.183	0.00247	0.00140	0.00932	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	0.146	0.283	<0.100 DLA	0.095	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	18.0	16.7	17.4	11.4	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.0112	0.00558	0.00606	0.00154	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000298	0.000166	0.000144	0.000907	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	12.7	4.66	5.07	9.27	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND013A-240914	MW0003A-240914	MW0003B-240914	MW2118-240914	----
				Client sampling date / time	14-Sep-2024 08:55	14-Sep-2024 11:00	14-Sep-2024 12:05	14-Sep-2024 14:20	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401488-001	YL2401488-002	YL2401488-003	YL2401488-004	--------
					Result	Result	Result	Result	----
Total Metals									
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000362	<0.000020 DLA	0.000032	0.000016	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	120	103	110	43.5	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.963	3.01	3.96	2.98	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	796	390	413	191	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00040 DLA	0.00043	0.00051	0.00053	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000178	<0.000020 DLA	<0.000020 DLA	0.000042	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00050 DLM	<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	0.00014	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00540 DLM	<0.00120 DLM	<0.00690 DLM	<0.00150 DLM	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.0256	0.0419	0.0345	0.189	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00100 DLA	0.00150	0.00220	0.00095	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	4.43	<0.0060 DLA	<0.0060 DLA	0.0068	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00080 DLM	<0.00040 DLA	<0.00060 DLM	0.00224	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	<0.0050 DLA	<0.0020 DLA	<0.0020 DLA	0.0026	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.558	0.00444	0.00157	0.00079	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	4.26	0.0204	0.0951	0.00496	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0219	0.0277	0.0304	0.0870	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	<0.000100	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000250 DLA	<0.000100 DLA	<0.000100 DLA	<0.000050	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	2.18	0.235	0.230	0.267	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.00656	0.0000130	<0.0000100 DLA	0.000116	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	459	369	394	259	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000086	0.000077	0.000149	<0.000010	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00050 DLA	<0.00020 DLA	<0.00020 DLA	0.00136	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00250 DLA	<0.00100 DLA	<0.00100 DLA	0.00136	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.284	0.00493	0.00646	0.00202	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	<0.00100 DLA	0.00044	<0.00040 DLA	0.00235	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	30.7	1.33	3.18	<0.010	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND013A-240914	MW0003A-240914	MW0003B-240914	MW2118-240914	----
				Client sampling date / time	14-Sep-2024 08:55	14-Sep-2024 11:00	14-Sep-2024 12:05	14-Sep-2024 14:20	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401488-001	YL2401488-002	YL2401488-003	YL2401488-004	--------
					Result	Result	Result	Result	----
Dissolved Metals									
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	0.00500	<0.000100 DLA	<0.000100 DLA	0.000318	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0545	0.0381	0.0393	0.0922	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	373	136	143	192	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	4.66	1.31	1.40	0.255	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	0.0000051	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.0316	0.00324	0.00488	0.00334	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.179	0.00264	0.00134	0.00920	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.250 DLA	0.230	<0.100 DLA	0.076	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	17.4	17.2	17.7	11.8	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.0108	0.00525	0.00626	0.00137	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	<0.000250 DLA	0.000101	<0.000100 DLA	0.00130 DTSE	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	11.7	4.77	5.19	9.70	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000050 DLA	<0.000020 DLA	<0.000020 DLA	<0.000010	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	121	104	111	44.2	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.915	2.90	3.91	2.96	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	707	379	407	176	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00100 DLA	<0.00040 DLA	<0.00040 DLA	<0.00020	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	0.000151	<0.000020 DLA	<0.000020 DLA	0.000046	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00050 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00050 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00150 DLA	<0.00060 DLA	<0.00060 DLA	<0.00060 DLM	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00050 DLA	<0.00020 DLA	<0.00020 DLA	<0.00010	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.0221	0.0416	0.0336	0.191	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00250 DLA	0.00140	<0.00100 DLA	0.00080	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	4.22	0.0046	<0.0020 DLA	0.0066	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00100 DLA	<0.00040 DLA	<0.00040 DLA	0.00223	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401488**	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	: 16-Sep-2024 09:00
PO	: YEL218	Issue Date	: 25-Sep-2024 16:40
C-O-C number	: ----		
Sampler	: ----		
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 Matrix Spike outliers occur.
- Laboratory Control Sample (LCS) 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

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

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
Laboratory Control Sample (LCS) Recoveries								
Dissolved Metals	QC-MRG2-1663878 002	----	Sulfur, dissolved	7704-34-9	E421	78.1 % MES	80.0-120%	Recovery less than lower control limit

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) MW0003A-240914	E298	14-Sep-2024	19-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW0003B-240914	E298	14-Sep-2024	19-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW2118-240914	E298	14-Sep-2024	19-Sep-2024	28 days	5 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND013A-240914	E298	14-Sep-2024	19-Sep-2024	28 days	6 days	✓	21-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW0003A-240914	E235.Br-L	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW0003B-240914	E235.Br-L	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW2118-240914	E235.Br-L	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SDIAND013A-240914	E235.Br-L	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW0003A-240914	E235.Cl	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW0003B-240914	E235.Cl	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW2118-240914	E235.Cl	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SDIAND013A-240914	E235.Cl	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW0003A-240914	E235.F	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW0003B-240914	E235.F	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW2118-240914	E235.F	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND013A-240914	E235.F	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-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
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW0003A-240914	E235.NO3-L	14-Sep-2024	20-Sep-2024	3 days	6 days	✗ EHT	20-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW0003B-240914	E235.NO3-L	14-Sep-2024	20-Sep-2024	3 days	6 days	✗ EHT	20-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW2118-240914	E235.NO3-L	14-Sep-2024	20-Sep-2024	3 days	6 days	✗ EHT	20-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND013A-240914	E235.NO3-L	14-Sep-2024	20-Sep-2024	3 days	6 days	✗ EHT	20-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW0003A-240914	E235.NO2-L	14-Sep-2024	20-Sep-2024	3 days	6 days	✗ EHT	20-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW0003B-240914	E235.NO2-L	14-Sep-2024	20-Sep-2024	3 days	6 days	✗ EHT	20-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW2118-240914	E235.NO2-L	14-Sep-2024	20-Sep-2024	3 days	6 days	✗ EHT	20-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SDIAND013A-240914	E235.NO2-L	14-Sep-2024	20-Sep-2024	3 days	6 days	✗ EHT	20-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW0003A-240914	E392	14-Sep-2024	----	----	----		23-Sep-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 MW0003B-240914	E392	14-Sep-2024	----	----	----		23-Sep-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW2118-240914	E392	14-Sep-2024	----	----	----		23-Sep-2024	28 days	9 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SDIAND013A-240914	E392	14-Sep-2024	----	----	----		23-Sep-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW0003A-240914	E235.SO4	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW0003B-240914	E235.SO4	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW2118-240914	E235.SO4	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SDIAND013A-240914	E235.SO4	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW0003A-240914	E421.Cr-L	14-Sep-2024	22-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW0003B-240914	E421.Cr-L	14-Sep-2024	22-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	9 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW2118-240914	E421.Cr-L	14-Sep-2024	22-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SDIAND013A-240914	E421.Cr-L	14-Sep-2024	22-Sep-2024	180 days	8 days	✓	23-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW0003A-240914	E509	14-Sep-2024	22-Sep-2024	28 days	8 days	✓	22-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW0003B-240914	E509	14-Sep-2024	22-Sep-2024	28 days	8 days	✓	22-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW2118-240914	E509	14-Sep-2024	22-Sep-2024	28 days	8 days	✓	22-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND013A-240914	E509	14-Sep-2024	22-Sep-2024	28 days	8 days	✓	22-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW0003A-240914	E421	14-Sep-2024	22-Sep-2024	180 days	8 days	✓	24-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW0003B-240914	E421	14-Sep-2024	22-Sep-2024	180 days	8 days	✓	24-Sep-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW2118-240914	E421	14-Sep-2024	22-Sep-2024	180 days	8 days	✓	24-Sep-2024	180 days	10 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND013A-240914	E421	14-Sep-2024	22-Sep-2024	180 days	8 days	✓	24-Sep-2024	180 days	10 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW0003B-240914	E358-L	14-Sep-2024	19-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW2118-240914	E358-L	14-Sep-2024	19-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW0003A-240914	E358-L	14-Sep-2024	19-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND013A-240914	E358-L	14-Sep-2024	19-Sep-2024	28 days	6 days	✓	19-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW0003B-240914	E355-L	14-Sep-2024	19-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW2118-240914	E355-L	14-Sep-2024	19-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW0003A-240914	E355-L	14-Sep-2024	19-Sep-2024	28 days	5 days	✓	19-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND013A-240914	E355-L	14-Sep-2024	19-Sep-2024	28 days	6 days	✓	19-Sep-2024	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE MW0003A-240914	E290	14-Sep-2024	20-Sep-2024	14 days	6 days	✓	20-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW0003B-240914	E290	14-Sep-2024	20-Sep-2024	14 days	6 days	✓	20-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW2118-240914	E290	14-Sep-2024	20-Sep-2024	14 days	6 days	✓	20-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND013A-240914	E290	14-Sep-2024	20-Sep-2024	14 days	6 days	✓	20-Sep-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW0003A-240914	E100	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW0003B-240914	E100	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW2118-240914	E100	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND013A-240914	E100	14-Sep-2024	20-Sep-2024	28 days	6 days	✓	20-Sep-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE MW2118-240914	E108	14-Sep-2024	20-Sep-2024	0.25 hrs	138 hrs	✖ EHTR-FM	20-Sep-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 MW0003B-240914	E108	14-Sep-2024	20-Sep-2024	0.25 hrs	140 hrs	✗ EHTR-FM	20-Sep-2024	0.25 hrs	141 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW0003A-240914	E108	14-Sep-2024	20-Sep-2024	0.25 hrs	141 hrs	✗ EHTR-FM	20-Sep-2024	0.25 hrs	142 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SDIAND013A-240914	E108	14-Sep-2024	20-Sep-2024	0.25 hrs	143 hrs	✗ EHTR-FM	20-Sep-2024	0.25 hrs	144 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW0003A-240914	E162-L	14-Sep-2024	----	----	----		20-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW0003B-240914	E162-L	14-Sep-2024	----	----	----		20-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW2118-240914	E162-L	14-Sep-2024	----	----	----		20-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND013A-240914	E162-L	14-Sep-2024	----	----	----		20-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW0003A-240914	E160-L	14-Sep-2024	----	----	----		20-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW0003B-240914	E160-L	14-Sep-2024	----	----	----		20-Sep-2024	7 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW2118-240914	E160-L	14-Sep-2024	----	----	----		20-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SDIAND013A-240914	E160-L	14-Sep-2024	----	----	----		20-Sep-2024	7 days	6 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MW0003A-240914	E121	14-Sep-2024	----	----	----		21-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW0003B-240914	E121	14-Sep-2024	----	----	----		21-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW2118-240914	E121	14-Sep-2024	----	----	----		21-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SDIAND013A-240914	E121	14-Sep-2024	----	----	----		21-Sep-2024	3 days	7 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW0003A-240914	E420.Cr-L	14-Sep-2024	21-Sep-2024	180 days	7 days	✓	22-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW0003B-240914	E420.Cr-L	14-Sep-2024	21-Sep-2024	180 days	7 days	✓	22-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW2118-240914	E420.Cr-L	14-Sep-2024	21-Sep-2024	180 days	7 days	✓	22-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) SDIAND013A-240914	E420.Cr-L	14-Sep-2024	21-Sep-2024	180 days	7 days	✓	22-Sep-2024	180 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW0003A-240914	E508	14-Sep-2024	22-Sep-2024	28 days	8 days	✓	22-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW0003B-240914	E508	14-Sep-2024	22-Sep-2024	28 days	8 days	✓	22-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW2118-240914	E508	14-Sep-2024	22-Sep-2024	28 days	8 days	✓	22-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND013A-240914	E508	14-Sep-2024	22-Sep-2024	28 days	8 days	✓	22-Sep-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW0003A-240914	E420	14-Sep-2024	21-Sep-2024	180 days	7 days	✓	23-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW0003B-240914	E420	14-Sep-2024	21-Sep-2024	180 days	7 days	✓	23-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW2118-240914	E420	14-Sep-2024	21-Sep-2024	180 days	7 days	✓	23-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SDIAND013A-240914	E420	14-Sep-2024	21-Sep-2024	180 days	7 days	✓	23-Sep-2024	180 days	9 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	1662655	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1662292	1	10	10.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1662664	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1662660	1	10	10.0	5.0	✓
Conductivity in Water	E100	1662656	1	11	9.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1663879	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1666521	2	21	9.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1663878	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1662293	1	13	7.6	5.0	✓
Fluoride in Water by IC	E235.F	1662663	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1662658	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1662659	1	11	9.0	5.0	✓
pH by Meter	E108	1662654	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1667023	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1662662	1	10	10.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1664394	1	18	5.5	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1663850	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1666349	1	18	5.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1663848	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1662291	1	8	12.5	5.0	✓
Turbidity by Nephelometry	E121	1665076	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1662655	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1662292	1	10	10.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1662664	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1662660	1	10	10.0	5.0	✓
Conductivity in Water	E100	1662656	1	11	9.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1663879	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1666521	2	21	9.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1663878	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1662293	1	13	7.6	5.0	✓
Fluoride in Water by IC	E235.F	1662663	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1662658	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1662659	1	11	9.0	5.0	✓
pH by Meter	E108	1662654	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1667023	1	17	5.8	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Sulfate in Water by IC	E235.SO4	1662662	1	10	10.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1664394	1	18	5.5	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1663850	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1666349	1	18	5.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1663848	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1662291	1	8	12.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1664412	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1665076	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1662655	1	9	11.1	5.0	✓
Ammonia by Fluorescence	E298	1662292	1	10	10.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1662664	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1662660	1	10	10.0	5.0	✓
Conductivity in Water	E100	1662656	1	11	9.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1663879	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1666521	2	21	9.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1663878	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1662293	1	13	7.6	5.0	✓
Fluoride in Water by IC	E235.F	1662663	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1662658	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1662659	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1667023	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1662662	1	10	10.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1664394	1	18	5.5	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1663850	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1666349	1	18	5.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1663848	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1662291	1	8	12.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1664412	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1665076	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1662292	1	10	10.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1662664	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1662660	1	10	10.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1663879	1	8	12.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1666521	1	21	4.7	5.0	×
Dissolved Metals in Water by CRC ICPMS	E421	1663878	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1662293	1	13	7.6	5.0	✓
Fluoride in Water by IC	E235.F	1662663	1	8	12.5	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*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1662658	1	9	11.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1662659	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1667023	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1662662	1	10	10.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1663850	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1666349	1	18	5.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1663848	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1662291	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 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.
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).

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

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401488**	Page	: 1 of 17
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-Sep-2024 09:00
PO	: YEL218	Date Analysis Commenced	: 19-Sep-2024
C-O-C number	: ----	Issue Date	: 25-Sep-2024 16:40
Sampler	: ----		
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*
Dan Gebert	Laboratory Analyst	Vancouver Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	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: 1662654)											
YL2401485-002	Anonymous	pH	----	E108	0.10	pH units	8.17	8.19	0.244%	4%	----
Physical Tests (QC Lot: 1662655)											
YL2401485-002	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	255	256	0.391%	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	255	256	0.391%	20%	----
Physical Tests (QC Lot: 1662656)											
YL2401485-002	Anonymous	Conductivity	----	E100	1.0	µS/cm	662	658	0.606%	10%	----
Physical Tests (QC Lot: 1664394)											
EO2408093-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	634	620	2.23%	20%	----
Physical Tests (QC Lot: 1665076)											
VA24C4565-017	Anonymous	Turbidity	----	E121	0.10	NTU	9.08	9.10	0.220%	15%	----
Anions and Nutrients (QC Lot: 1662292)											
FJ2402788-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0386	0.0392	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662658)											
YL2401485-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	0.0976	0.0964	0.0012	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662659)											
YL2401485-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	0.0067	0.0062	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662660)											
VA24C4765-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662662)											
VA24C4765-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	0.89	0.89	0.003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662663)											
YL2401485-001	Anonymous	Fluoride	16984-48-8	E235.F	0.100	mg/L	0.113	0.118	0.005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1662664)											
YL2401485-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.250	mg/L	<0.250	<0.250	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1667023)											
YL2401485-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	10.6	10.6	0.0149%	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*
Organic / Inorganic Carbon (QC Lot: 1662291)											
YL2401485-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	3.38	3.49	0.11	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1662293)											
FJ2402788-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	2.77	3.07	0.31	Diff <2x LOR	----
Total Metals (QC Lot: 1663848)											
YL2401485-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.102	0.108	5.16%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00247	0.00246	0.118%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.0327	0.0330	0.730%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0145	0.0147	1.12%	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	0.106	0.103	2.95%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000152	0.0000155	0.0000003	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	182	176	3.26%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000031	0.000031	0.00000005	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	0.00560	0.00571	1.95%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00316	0.00324	0.00007	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.197	0.206	4.47%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000248	0.000252	0.000004	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0565	0.0520	8.24%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	70.6	72.1	2.10%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0690	0.0697	0.924%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00343	0.00338	1.55%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00142	0.00146	0.00004	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.688	0.685	0.414%	20%	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	7.14	7.38	3.36%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00188	0.00193	0.00006	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.00125	0.00149	17.9%	20%	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	5.28	5.50	3.96%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000047	0.000047	0.0000001	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	27.5	27.9	1.38%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.869	0.841	3.28%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	180	185	2.60%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00021	<0.00020	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
Total Metals (QC Lot: 1663848) - continued											
YL2401485-001	Anonymous	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	0.00360	mg/L	<0.00360	<0.00360	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00180	0.00183	1.95%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.0554	0.0542	2.17%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00114	0.00111	0.00003	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0082	0.0086	0.0004	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: 1663850)											
YL2401485-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00019	0.00023	0.00004	Diff <2x LOR	----
Total Metals (QC Lot: 1666349)											
VA24C3965-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1663878)											
YL2401485-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0084	0.0079	0.0005	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00237	0.00236	0.580%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.0332	0.0336	1.04%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0136	0.0134	1.65%	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	0.103	0.105	2.57%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000158	0.0000178	0.0000020	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	177	177	0.0186%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000027	0.000025	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	0.00532	0.00545	2.44%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00217	0.00217	0.0495%	20%	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.110	0.108	2.45%	20%	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	0.000051	0.000051	0.000000005	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0548	0.0561	2.37%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	73.2	74.1	1.16%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0681	0.0685	0.609%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00345	0.00339	1.67%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00132	0.00141	0.00009	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: 1663878) - continued											
YL2401485-001	Anonymous	Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	0.678	0.622	8.58%	20%	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	7.66	7.42	3.17%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00189	0.00196	0.00008	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.00135	0.00148	8.90%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	5.25	5.26	0.236%	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	28.7	28.8	0.400%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.872	0.840	3.81%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	173	170	1.70%	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	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	0.00179	0.00180	0.199%	20%	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.0520	0.0538	3.47%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.00088	0.00086	0.00002	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0064	0.0064	0.00003	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: 1663879)											
YL2401485-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1666521)											
FJ2402788-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1666522)											
YL2401488-004	MW2118-240914	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	0.0000071	0.0000021	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1662655)						
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: 1662656)						
Conductivity	----	E100	1	µS/cm	1.1	----
Physical Tests (QCLot: 1664394)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1664412)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1665076)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1662292)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1662658)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1662659)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1662660)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1662662)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1662663)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1662664)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1667023)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1662291)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1662293)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1662293) - continued						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1663848)						
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: 1663848) - 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: 1663850)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1666349)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1663878)						
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: 1663878) - 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: 1663879)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1666521)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1666522)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1662654)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1662655)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	91.0	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	99.1	85.0	115	----
Physical Tests (QCLot: 1662656)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	104	90.0	110	----
Physical Tests (QCLot: 1664394)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	111	85.0	115	----
Physical Tests (QCLot: 1664412)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	109	85.0	115	----
Physical Tests (QCLot: 1665076)									
Turbidity	----	E121	0.1	NTU	200 NTU	96.5	85.0	115	----
Anions and Nutrients (QCLot: 1662292)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1662658)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.1	90.0	110	----
Anions and Nutrients (QCLot: 1662659)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	99.5	90.0	110	----
Anions and Nutrients (QCLot: 1662660)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.2	90.0	110	----
Anions and Nutrients (QCLot: 1662662)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.5	90.0	110	----
Anions and Nutrients (QCLot: 1662663)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1662664)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1667023)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	102	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1662291)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	101	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: 1662293)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Total Metals (QCLot: 1663848)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	96.8	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	99.6	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	98.4	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	96.5	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	89.8	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	96.4	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	98.1	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	99.5	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	92.8	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	95.2	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	94.8	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	96.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	94.7	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	94.1	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	96.7	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	97.7	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	96.4	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	96.4	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	99.7	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	96.9	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	97.1	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	104	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	91.6	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	91.5	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	98.3	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	97.1	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	95.3	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: 1663848) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	92.3	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	92.0	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	99.7	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	97.4	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: 1663850)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	92.8	80.0	120	----
Total Metals (QCLot: 1666349)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	96.2	80.0	120	----
Dissolved Metals (QCLot: 1663878)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	97.5	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	100	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	93.8	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	95.1	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	96.0	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	95.7	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	97.8	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	98.6	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	94.0	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	95.0	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	93.0	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	94.3	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	94.0	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	99.5	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	95.6	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	95.2	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	98.6	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	95.9	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	99.9	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	99.0	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	93.2	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	96.6	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1663878) - continued									
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	90.3	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	105	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	96.1	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	# 78.1	80.0	120	MES
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	95.1	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	93.3	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	89.9	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	95.2	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	88.8	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	93.7	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	93.2	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	94.5	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	93.7	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	92.7	80.0	120	----
Dissolved Metals (QCLot: 1663879)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	94.0	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	91.7	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	86.1	80.0	120	----

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).*

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: 1662292)										
FJ2402788-002	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: 1662658)										
YL2401485-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.50 mg/L	2.5 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1662659)										
VA24C4765-002	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: 1662660)										
VA24C4765-002	Anonymous	Chloride	16887-00-6	E235.Cl	99.2 mg/L	100 mg/L	99.2	75.0	125	----
Anions and Nutrients (QCLot: 1662662)										
VA24C4765-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	100 mg/L	100 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1662663)										
YL2401485-002	Anonymous	Fluoride	16984-48-8	E235.F	0.998 mg/L	1 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1662664)										
YL2401485-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.508 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1667023)										
YL2401485-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1662291)										
YL2401485-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1662293)										
FJ2402788-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.83 mg/L	5 mg/L	96.7	70.0	130	----
Total Metals (QCLot: 1663848)										
YL2401485-002	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0191 mg/L	0.02 mg/L	95.4	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00870 mg/L	0.01 mg/L	87.0	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00372 mg/L	0.004 mg/L	93.1	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00956 mg/L	0.01 mg/L	95.6	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0362 mg/L	0.04 mg/L	90.6	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0180 mg/L	0.02 mg/L	90.2	70.0	130	----
		Copper, total	7440-50-8	E420	0.0174 mg/L	0.02 mg/L	87.1	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: 1663848) - continued										
YL2401485-002	Anonymous	Iron, total	7439-89-6	E420	1.68 mg/L	2 mg/L	84.1	70.0	130	----
		Lead, total	7439-92-1	E420	0.0174 mg/L	0.02 mg/L	86.9	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0883 mg/L	0.1 mg/L	88.3	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	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0359 mg/L	0.04 mg/L	89.8	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.56 mg/L	10 mg/L	95.6	70.0	130	----
		Potassium, total	7440-09-7	E420	3.50 mg/L	4 mg/L	87.6	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0368 mg/L	0.04 mg/L	92.1	70.0	130	----
		Silicon, total	7440-21-3	E420	8.81 mg/L	10 mg/L	88.1	70.0	130	----
		Silver, total	7440-22-4	E420	0.00369 mg/L	0.004 mg/L	92.3	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0376 mg/L	0.04 mg/L	94.0	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00352 mg/L	0.004 mg/L	88.1	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0194 mg/L	0.02 mg/L	97.2	70.0	130	----
		Tin, total	7440-31-5	E420	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Titanium, total	7440-32-6	E420	ND mg/L	----	ND	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0176 mg/L	0.02 mg/L	87.9	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0971 mg/L	0.1 mg/L	97.1	70.0	130	----
		Zinc, total	7440-66-6	E420	0.358 mg/L	0.4 mg/L	89.4	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0400 mg/L	0.04 mg/L	100	70.0	130	----
Total Metals (QCLot: 1663850)										
YL2401485-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0362 mg/L	0.04 mg/L	90.6	70.0	130	----
Total Metals (QCLot: 1666349)										
VA24C4019-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000908 mg/L	0 mg/L	90.8	70.0	130	----
Dissolved Metals (QCLot: 1663878)										
YL2401485-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.204 mg/L	0.2 mg/L	102	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0214 mg/L	0.02 mg/L	107	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0396 mg/L	0.04 mg/L	99.1	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00871 mg/L	0.01 mg/L	87.1	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00394 mg/L	0.004 mg/L	98.5	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00972 mg/L	0.01 mg/L	97.2	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0389 mg/L	0.04 mg/L	97.4	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0195 mg/L	0.02 mg/L	97.3	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: 1663878) - continued										
YL2401485-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0185 mg/L	0.02 mg/L	92.7	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.86 mg/L	2 mg/L	93.0	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0178 mg/L	0.02 mg/L	88.8	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0979 mg/L	0.1 mg/L	97.9	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0188 mg/L	0.02 mg/L	94.1	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0203 mg/L	0.02 mg/L	102	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0387 mg/L	0.04 mg/L	96.8	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	4.12 mg/L	4 mg/L	103	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0391 mg/L	0.04 mg/L	97.8	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.31 mg/L	10 mg/L	93.1	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00380 mg/L	0.004 mg/L	95.1	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	0.0396 mg/L	0.04 mg/L	99.1	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00346 mg/L	0.004 mg/L	86.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0197 mg/L	0.02 mg/L	98.5	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0193 mg/L	0.02 mg/L	96.4	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	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	ND mg/L	----	ND	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.390 mg/L	0.4 mg/L	97.6	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0406 mg/L	0.04 mg/L	102	70.0	130	----
Dissolved Metals (QCLot: 1663879)										
YL2401485-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0389 mg/L	0.04 mg/L	97.4	70.0	130	----
Dissolved Metals (QCLot: 1666521)										
FJ2402788-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000917 mg/L	0 mg/L	91.7	70.0	130	----

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
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.							
SDIAND013A-240914	S-DIAND-013A	14-Sep-24	8:55	GW			G	8	X	X	X															
MW0003A-240914	MW00-03A	14-Sep-24	11:00	GW			G	8	X	X	X															
MW0003B-240914	MW00-03B	14-Sep-24	12:05	GW			G	8	X	X	X															
MW2118-240914	MW21-18	14-Sep-24	14:20	GW			G	8	X	X	X															

Relinquished by (Sampler Signature/ Print): Cara Kalancha	Date/Time: 9/16/2024 9:00	Company: **SLR Consulting**	
Received by (Name): Simon Arhook too	Received by (Signature)	Company: **ALS** SEPT 16/24	**SAMPLE CONDITION (lab use only)** Sample Receipt Temperature (deg. C): 3.3
			Samples Received in Good Condition? Yes No (If no, provide details.)
			On cooling media: Y N

YL2401488

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CERTIFICATE OF ANALYSIS

Work Order	: **YL2401535**		
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: Saskatchewan Research Council
Contact	: Shaun Lamoureux	Account Manager	: Oliver Gregg
Address	: 1B Coronation Drive Yellowknife Northwest Territories Canada X1A 0G5	Address	: 143 - 111 Research Drive Saskatoon SK Canada S7N 3R2
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 19-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 10-Oct-2024
C-O-C number	: ----	Issue Date	: 11-Oct-2024 16:34
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	SNP431-240918	TB-240918	----	----	----
				Client sampling date / time	18-Sep-2024 15:27	18-Sep-2024 00:00	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401535-001	YL2401535-002	----	----	----
					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	: **YL2401535**	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	: 19-Sep-2024 09:02
PO	: YEL218	Issue Date	: 11-Oct-2024 16:34
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)										
SNP431-240918	Ra-226	18-Sep-2024	----	----	----		10-Oct-2024	----	21 days	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE										
TB-240918	Ra-226	18-Sep-2024	----	----	----		10-Oct-2024	----	21 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	: **YL2401535**	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	: 19-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 10-Oct-2024
C-O-C number	: ----	Issue Date	: 11-Oct-2024 16:34
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 # 2024-12192

Oct 11, 2024

ALS
314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Date Samples Received: Sep-25-2024 Client P.O.: YL2401535

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 # 2024-12192

Oct 11, 2024

ALS

314 Old Airport Road, Unit 116
Yellowknife, NT X1A 3T3
Attn: Oliver Gregg

Sample #: **2024033277**
Date Sampled: **Sep 18, 2024**
Sample Matrix: **WATER**
Description: **09/18/2024 16:27 SNP4321-240910 YL2401535-001**

Client PO #: **YL2401535**
Date Received: **Sep 25, 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 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 # 2024-12192

Oct 11, 2024

ALS

Sample #:	**2024033278**	Client PO #:	**YL2401535**
Date Sampled:	**Sep 18, 2024**	Date Received:	**Sep 25, 2024**
Sample Matrix:	**WATER**		
Description:	**09/18/2024 16:27 TB-240910 YL2401535-002**		

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 # 2024-12192

Oct 11, 2024

ALS

Analyte Methods

Name	Units	Method
Radium-226	Bq/L	Rad-105

Environmental Division
Yellowknife
Work Order Reference
YL2401535

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@persons.com
giantdata@roaanc-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
kkakfiw@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			
SNP431-240910	SNP 43-1	18-Sep-24	15:27	Water			C	1									X			
TB-240910	Trip Blank	18-Sep-24	-	Water			G	1									X			

Relinquished by (Sampler Signature): Keenan Kakfwi
Date/Time: 2024-September-19 9:02
Company: SLR Consulting

Received by (Name): Simon Ardoktoo
Received by (Signature)
Company: ALS SEPT 19/24
Sample Receipt Temperature (deg. C): 3.5

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	: **YL2401536**	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	: 19-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 23-Sep-2024
C-O-C number	: ----	Issue Date	: 27-Sep-2024 14:37
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*
Chamoi Beckford	Lab Assistant	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
Robert Nguyen	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
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*
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).*
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.*

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW0004B-240917	MW2105-240917	----	----	----
				Client sampling date / time	17-Sep-2024 12:30	17-Sep-2024 14:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401536-002	YL2401536-003	--------	--------	--------
					Result	Result	----	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	309	295	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	309	295	----	----	----
Conductivity	----	E100/VA	1.0	µS/cm	1620	612	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	1080	362	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	963	351	----	----	----
pH	----	E108/VA	0.10	pH units	7.98	8.16	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	1500	440	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	----	711	----	----	----
Turbidity	----	E121/VA	0.10	NTU	404	79.2	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.985	0.173	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.500 DLDS	<0.050	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	5.77	1.95	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.200 DLDS	0.138	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0500 DLDS	<0.0050	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0510	<0.0051	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0100 DLDS	<0.0010	----	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	7.46	10.3	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	776	57.2	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	7.14	10.1	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	41.0	16.1	----	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	22.5	7.15	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW0004B-240917	MW2105-240917	----	----	----
				Client sampling date / time	17-Sep-2024 12:30	17-Sep-2024 14:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401536-002	YL2401536-003	--------	--------	--------
					Result	Result	----	----	----
Ion Balance									
Cation sum	----	EC101/VA	0.10	meq/L	23.0	8.64	----	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	1.10	9.44	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	2.11	5.80	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00165	0.00182	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.0360	0.0262	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0552	0.184	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	0.00164	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	0.000244	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.099	0.050	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.000121	0.000131	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	211	77.3	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000235	0.000934	----	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.0187	0.00371	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	0.0187	0.00371	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.0647	0.00341	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.194	0.0144	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	41.6	7.68	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.0141	0.0107	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0546	0.0128	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	106	38.3	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	1.69	1.55	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	0.0000166	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.00762	0.00350	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.0287	0.00644	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	0.203	0.486	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	14.1	3.50	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00587	0.00982	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000136	0.000262	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	7.60	15.9	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW0004B-240917	MW2105-240917	----	----	----
				Client sampling date / time	17-Sep-2024 12:30	17-Sep-2024 14:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401536-002	YL2401536-003	--------	--------	--------
					Result	Result	----	----	----
Total Metals									
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000157	0.000313	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	13.4	23.4	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.555	0.660	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	226	17.4	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000021	0.000081	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00080 DLM	0.0115	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	0.00059	0.00074	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.0985	0.0904	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.0339	0.00376	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.0735	0.00522	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00491	0.00684	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0256	0.0380	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00102	0.00658	----	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0015	0.0027	----	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00135	0.00056	----	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.00338	0.0197	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0214	0.0819	----	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100	----	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000050	----	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.096	0.051	----	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.000154	<0.0000050	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	256	76.5	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	0.000012	----	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	0.00020	----	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00050	----	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.339 DTMF	0.00072	----	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00137	0.00020	----	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	5.74	2.20	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW0004B-240917	MW2105-240917	----	----	----
				Client sampling date / time	17-Sep-2024 12:30	17-Sep-2024 14:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401536-002	YL2401536-003	--------	--------	--------
					Result	Result	----	----	----
Dissolved Metals									
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000050	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0624	0.0110	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	108	41.4	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	1.20	1.41	----	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	<0.0000050	----	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.00705	0.00321	----	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.0254	0.00129	----	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	0.257	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	15.8	2.27	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00355	0.00154	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.00108 DTSE	0.000116	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	4.26	5.21	----	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000010	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	13.7	27.9	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.559	0.654	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	232	19.7	----	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	----	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000010	----	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00030	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00122	0.00549 DTMF	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.136 DTMF	0.00241	----	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	0.00052	----	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0066	<0.0010	----	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	0.00043	----	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401536**	Page	: 1 of 16
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	: 19-Sep-2024 09:02
PO	: YEL218	Issue Date	: 27-Sep-2024 14:38
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 Duplicate outliers occur.
- No Matrix Spike outliers occur.
- Method Blank value outliers occur - please see following pages for full details.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

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

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Organic / Inorganic Carbon	QC-1668527-001	----	Carbon, dissolved organic [DOC]	----	E358-L	0.97 mg/L B	0.5 mg/L	Blank result exceeds permitted value

Result Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Laboratory Control Sample (LCS) Recoveries								
Dissolved Metals	QC-MRG2-1669299 002	----	Lithium, dissolved	7439-93-2	E421	121 % MES	80.0-120%	Recovery greater than upper control limit

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) MW2105-240917	E298	17-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW0004B-240917	E298	17-Sep-2024	24-Sep-2024	28 days	7 days	✓	25-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW2105-240917	E235.Br-L	17-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW0004B-240917	E235.Br-L	17-Sep-2024	24-Sep-2024	28 days	7 days	✓	24-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW2105-240917	E235.Cl	17-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW0004B-240917	E235.Cl	17-Sep-2024	24-Sep-2024	28 days	7 days	✓	24-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW2105-240917	E235.F	17-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-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
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW0004B-240917	E235.F	17-Sep-2024	24-Sep-2024	28 days	7 days	✓	24-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW2105-240917	E235.NO3-L	17-Sep-2024	24-Sep-2024	3 days	6 days	✖ EHT	24-Sep-2024	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW0004B-240917	E235.NO3-L	17-Sep-2024	24-Sep-2024	3 days	7 days	✖ EHT	24-Sep-2024	3 days	7 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW2105-240917	E235.NO2-L	17-Sep-2024	24-Sep-2024	3 days	6 days	✖ EHT	24-Sep-2024	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW0004B-240917	E235.NO2-L	17-Sep-2024	24-Sep-2024	3 days	7 days	✖ EHT	24-Sep-2024	3 days	7 days	✖ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW0004B-240917	E392	17-Sep-2024	----	----	----		25-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW2105-240917	E392	17-Sep-2024	----	----	----		25-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW2105-240917	E235.SO4	17-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW0004B-240917	E235.SO4	17-Sep-2024	24-Sep-2024	28 days	7 days	✓	24-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
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW0004B-240917	E421.Cr-L	17-Sep-2024	25-Sep-2024	180 days	8 days	✓	25-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW2105-240917	E421.Cr-L	17-Sep-2024	25-Sep-2024	180 days	8 days	✓	25-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW0004B-240917	E509	17-Sep-2024	25-Sep-2024	28 days	8 days	✓	25-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW2105-240917	E509	17-Sep-2024	25-Sep-2024	28 days	8 days	✓	25-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW0004B-240917	E421	17-Sep-2024	25-Sep-2024	180 days	8 days	✓	26-Sep-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW2105-240917	E421	17-Sep-2024	25-Sep-2024	180 days	8 days	✓	26-Sep-2024	180 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW0004B-240917	E358-L	17-Sep-2024	24-Sep-2024	28 days	7 days	✓	24-Sep-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MW2105-240917	E358-L	17-Sep-2024	24-Sep-2024	3 days	6 days	× EHT	24-Sep-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW2105-240917	E355-L	17-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-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
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW0004B-240917	E355-L	17-Sep-2024	24-Sep-2024	28 days	7 days	✓	24-Sep-2024	28 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW2105-240917	E290	17-Sep-2024	24-Sep-2024	14 days	6 days	✓	24-Sep-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW0004B-240917	E290	17-Sep-2024	24-Sep-2024	14 days	7 days	✓	24-Sep-2024	14 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE MW2105-240917	E100	17-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE MW0004B-240917	E100	17-Sep-2024	24-Sep-2024	28 days	7 days	✓	24-Sep-2024	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE MW2105-240917	E108	17-Sep-2024	24-Sep-2024	0.25 hrs	154 hrs	✖ EHTR-FM	24-Sep-2024	0.25 hrs	166 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW0004B-240917	E108	17-Sep-2024	24-Sep-2024	0.25 hrs	156 hrs	✖ EHTR-FM	24-Sep-2024	0.25 hrs	167 hrs	✖ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW2105-240917	E162-L	17-Sep-2024	----	----	----		24-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW0004B-240917	E162-L	17-Sep-2024	----	----	----		25-Sep-2024	7 days	8 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 : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW2105-240917	E160-L	17-Sep-2024	----	----	----		24-Sep-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MW0004B-240917	E121	17-Sep-2024	----	----	----		24-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW2105-240917	E121	17-Sep-2024	----	----	----		24-Sep-2024	3 days	7 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW0004B-240917	E420.Cr-L	17-Sep-2024	25-Sep-2024	180 days	8 days	✓	25-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW2105-240917	E420.Cr-L	17-Sep-2024	25-Sep-2024	180 days	8 days	✓	25-Sep-2024	180 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW0004B-240917	E508	17-Sep-2024	25-Sep-2024	28 days	8 days	✓	25-Sep-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW2105-240917	E508	17-Sep-2024	25-Sep-2024	28 days	8 days	✓	25-Sep-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW0004B-240917	E420	17-Sep-2024	25-Sep-2024	180 days	8 days	✓	26-Sep-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW2105-240917	E420	17-Sep-2024	25-Sep-2024	180 days	8 days	✓	26-Sep-2024	180 days	9 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	1668474	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1668526	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1668479	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1668478	1	16	6.2	5.0	✓
Conductivity in Water	E100	1668476	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1669300	1	16	6.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1672280	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1669299	1	19	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668527	1	4	25.0	5.0	✓
Fluoride in Water by IC	E235.F	1668477	1	16	6.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1668480	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1668481	1	20	5.0	5.0	✓
pH by Meter	E108	1668475	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1673012	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1668482	1	16	6.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1669719	2	30	6.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1669281	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1672149	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1669280	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668524	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1670430	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1668474	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1668526	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1668479	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1668478	1	16	6.2	5.0	✓
Conductivity in Water	E100	1668476	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1669300	1	16	6.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1672280	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1669299	1	19	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668527	1	4	25.0	5.0	✓
Fluoride in Water by IC	E235.F	1668477	1	16	6.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1668480	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1668481	1	20	5.0	5.0	✓
pH by Meter	E108	1668475	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1673012	1	14	7.1	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*
Laboratory Control Samples (LCS) - Continued							
Sulfate in Water by IC	E235.SO4	1668482	1	16	6.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1669719	2	30	6.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1669281	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1672149	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1669280	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668524	1	20	5.0	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1669703	1	12	8.3	5.0	✓
Turbidity by Nephelometry	E121	1670430	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1668474	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1668526	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1668479	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1668478	1	16	6.2	5.0	✓
Conductivity in Water	E100	1668476	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1669300	1	16	6.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1672280	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1669299	1	19	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668527	1	4	25.0	5.0	✓
Fluoride in Water by IC	E235.F	1668477	1	16	6.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1668480	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1668481	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673012	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1668482	1	16	6.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1669719	2	30	6.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1669281	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1672149	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1669280	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668524	1	20	5.0	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1669703	1	12	8.3	5.0	✓
Turbidity by Nephelometry	E121	1670430	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1668526	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1668479	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1668478	1	16	6.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1669300	1	16	6.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1672280	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1669299	1	19	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668527	1	4	25.0	5.0	✓
Fluoride in Water by IC	E235.F	1668477	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*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1668480	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1668481	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673012	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1668482	1	16	6.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1669281	1	8	12.5	5.0	✓
Total Mercury in Water by CVAAS	E508	1672149	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1669280	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668524	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 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.
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).

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

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.

ALS Canada Ltd.

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QUALITY CONTROL REPORT

Work Order	: **YL2401536**	Page	: 1 of 17
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	: 19-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 23-Sep-2024
C-O-C number	: ----	Issue Date	: 27-Sep-2024 14:37
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:

- 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
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
Robert Nguyen	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: 1668474)											
VA24C5127-002	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	79.1	78.8	0.380%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	4.0	4.6	14.0%	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	2.0	2.3	0.3	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	83.1	83.4	0.360%	20%	----
Physical Tests (QC Lot: 1668475)											
VA24C5127-002	Anonymous	pH	----	E108	0.10	pH units	8.56	8.58	0.233%	4%	----
Physical Tests (QC Lot: 1668476)											
VA24C5127-002	Anonymous	Conductivity	----	E100	2.0	µS/cm	160	159	0.563%	10%	----
Physical Tests (QC Lot: 1669719)											
YL2401526-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	972	935	3.83%	20%	----
Physical Tests (QC Lot: 1670430)											
VA24C5048-004	Anonymous	Turbidity	----	E121	0.10	NTU	0.33	0.33	0.002	Diff <2x LOR	----
Physical Tests (QC Lot: 1672679)											
VA24C5186-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	634	629	0.792%	20%	----
Anions and Nutrients (QC Lot: 1668477)											
YL2401532-001	Anonymous	Fluoride	16984-48-8	E235.F	0.400	mg/L	<0.400	<0.400	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1668478)											
YL2401532-001	Anonymous	Chloride	16887-00-6	E235.Cl	10.0	mg/L	465	504	8.14%	20%	----
Anions and Nutrients (QC Lot: 1668479)											
YL2401532-001	Anonymous	Bromide	24959-67-9	E235.Br-L	1.00	mg/L	3.78	4.09	0.305	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1668480)											
YL2401532-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1668481)											
YL2401532-001	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: 1668482)											
YL2401532-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	6.00	mg/L	478	522	8.87%	20%	----
Anions and Nutrients (QC Lot: 1668526)											
VA24C4653-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0768	0.0786	2.27%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1673012)											
VA24C4329-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	5.00	mg/L	7.23	7.10	0.13	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1668524)											
VA24C4653-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	21.6	26.3	19.7%	20%	----
Organic / Inorganic Carbon (QC Lot: 1668527)											
VA24C4653-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	17.2	18.5	7.14%	20%	----
Total Metals (QC Lot: 1669280)											
YL2401532-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0060	mg/L	<0.0060	<0.0060	0	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00020	mg/L	0.00943	0.00938	0.584%	20%	----
		Arsenic, total	7440-38-2	E420	0.00020	mg/L	3.67	3.58	2.45%	20%	----
		Barium, total	7440-39-3	E420	0.00020	mg/L	0.0236	0.0233	1.20%	20%	----
		Beryllium, total	7440-41-7	E420	0.000040	mg/L	<0.000040	<0.000040	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.020	mg/L	0.410	0.413	0.621%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000100	mg/L	<0.0000150	<0.0000100	0.0000050	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.100	mg/L	329	336	1.92%	20%	----
		Cesium, total	7440-46-2	E420	0.000020	mg/L	0.00129	0.00129	0.0834%	20%	----
		Chromium, total	7440-47-3	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00020	mg/L	0.0128	0.0128	0.284%	20%	----
		Copper, total	7440-50-8	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.020	mg/L	4.21	4.41	4.62%	20%	----
		Lead, total	7439-92-1	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0020	mg/L	0.0457	0.0449	1.74%	20%	----
		Magnesium, total	7439-95-4	E420	0.0100	mg/L	80.1	80.2	0.143%	20%	----
		Manganese, total	7439-96-5	E420	0.00020	mg/L	0.803	0.826	2.76%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000100	mg/L	0.0122	0.0122	0.0864%	20%	----
		Nickel, total	7440-02-0	E420	0.00100	mg/L	0.00771	0.00761	0.00010	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.100	mg/L	13.7	14.0	1.81%	20%	----
		Rubidium, total	7440-17-7	E420	0.00040	mg/L	0.00899	0.00911	1.34%	20%	----
		Selenium, total	7782-49-2	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.20	mg/L	4.57	4.92	7.46%	20%	----
		Silver, total	7440-22-4	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.100	mg/L	226	230	1.48%	20%	----
		Strontium, total	7440-24-6	E420	0.00040	mg/L	2.41	2.40	0.327%	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: 1669280) - continued											
YL2401532-001	Anonymous	Sulfur, total	7704-34-9	E420	1.00	mg/L	182	194	6.58%	20%	----
		Tellurium, total	13494-80-9	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00020	mg/L	0.00167	0.00172	0.00005	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000020	mg/L	0.00492	0.00505	2.52%	20%	----
		Vanadium, total	7440-62-2	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0060	mg/L	0.252	0.254	1.10%	20%	----
		Zirconium, total	7440-67-7	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
Total Metals (QC Lot: 1669281)											
YL2401532-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1672149)											
VA24C4369-004	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1669299)											
YL2401526-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0020	mg/L	0.0026	0.0027	0.00006	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00020	mg/L	0.0126	0.0128	1.80%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00020	mg/L	0.00350	0.00351	0.242%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000040	mg/L	<0.000040	<0.000040	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	0.622	0.642	3.23%	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	0.100	mg/L	11.4	11.2	1.99%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000020	mg/L	0.000043	0.000043	0.0000003	Diff <2x LOR	----
		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	<0.00020	<0.00020	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.020	mg/L	0.065	0.065	0.0005	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	0.0423	0.0436	3.00%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	2.96	2.99	0.944%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00020	mg/L	0.0214	0.0213	0.519%	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: 1669299) - continued											
YL2401526-001	Anonymous	Molybdenum, dissolved	7439-98-7	E421	0.000100	mg/L	0.00122	0.00119	2.24%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00100	mg/L	0.00105	0.00109	0.00004	Diff <2x LOR	----
		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	1.25	1.27	1.51%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00040	mg/L	0.00088	0.00096	0.00007	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.100	mg/L	14.0	14.5	3.10%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.100	mg/L	340	338	0.556%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00040	mg/L	0.176	0.180	1.99%	20%	----
		Sulfur, dissolved	7704-34-9	E421	1.00	mg/L	110	113	3.05%	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	<0.000020	<0.000020	0	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	0.00093	0.00094	0.000002	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000020	mg/L	0.000101	0.000106	0.000005	Diff <2x LOR	----
		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: 1669300)											
YL2401526-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1672280)											
VA24C4886-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1668474)						
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: 1668476)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1669703)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1669719)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1670430)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1672679)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1668477)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1668478)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1668479)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1668480)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1668481)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1668482)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1668526)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1673012)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1668524)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1668524) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1668527)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	# 0.97	B
Total Metals (QCLot: 1669280)						
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: 1669280) - 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: 1669281)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1672149)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1669299)						
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: 1669299) - 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: 1669300)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1672280)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1668474)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	95.4	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	101	85.0	115	----
Physical Tests (QCLot: 1668475)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1668476)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	96.7	90.0	110	----
Physical Tests (QCLot: 1669703)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	100	85.0	115	----
Physical Tests (QCLot: 1669719)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1670430)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1672679)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	98.0	85.0	115	----
Anions and Nutrients (QCLot: 1668477)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	99.1	90.0	110	----
Anions and Nutrients (QCLot: 1668478)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.6	90.0	110	----
Anions and Nutrients (QCLot: 1668479)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	98.5	85.0	115	----
Anions and Nutrients (QCLot: 1668480)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 1668481)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	99.5	90.0	110	----
Anions and Nutrients (QCLot: 1668482)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1668526)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1673012)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	103	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: 1668524)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	100	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1668527)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	109	80.0	120	----
Total Metals (QCLot: 1669280)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	103	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	117	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	109	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	99.6	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	96.7	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	98.2	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	97.3	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	95.8	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	99.8	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.4	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	88.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	102	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	114	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	101	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	100	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	99.1	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	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	94.4	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	96.7	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	98.2	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	118	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	102	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	96.5	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1669280) - continued									
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	85.7	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	99.8	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	95.1	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	88.2	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	98.1	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.9	80.0	120	----
Total Metals (QCLot: 1669281)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Total Metals (QCLot: 1672149)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	94.8	80.0	120	----
Dissolved Metals (QCLot: 1669299)									
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	118	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	111	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	93.0	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	99.4	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	98.5	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	98.4	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	92.6	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	97.7	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	94.9	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	88.8	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	# 121	80.0	120	MES
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	101	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	105	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	97.7	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	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: 1669299) - continued									
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	96.5	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	95.2	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	100	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	98.2	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	116	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	103	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	104	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	89.5	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	98.4	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	101	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	89.4	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	97.6	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Dissolved Metals (QCLot: 1669300)									
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	95.4	80.0	120	----

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).*

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: 1668477)										
YL2401532-002	Anonymous	Fluoride	16984-48-8	E235.F	49.4 mg/L	50 mg/L	98.9	75.0	125	----
Anions and Nutrients (QCLot: 1668478)										
YL2401532-002	Anonymous	Chloride	16887-00-6	E235.Cl	4970 mg/L	5000 mg/L	99.4	75.0	125	----
Anions and Nutrients (QCLot: 1668479)										
YL2401532-002	Anonymous	Bromide	24959-67-9	E235.Br-L	24.6 mg/L	25 mg/L	98.5	75.0	125	----
Anions and Nutrients (QCLot: 1668480)										
YL2401532-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	123 mg/L	125 mg/L	98.7	75.0	125	----
Anions and Nutrients (QCLot: 1668481)										
YL2401532-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	24.6 mg/L	25 mg/L	98.4	75.0	125	----
Anions and Nutrients (QCLot: 1668482)										
YL2401532-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	5010 mg/L	5000 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1668526)										
VA24C4653-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1673012)										
VA24C4329-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	97.4 mg/L	100 mg/L	97.4	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1668524)										
VA24C4653-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1668527)										
VA24C4653-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1669280)										
YL2401532-002	Anonymous	Aluminum, total	7429-90-5	E420	2.12 mg/L	2 mg/L	106	70.0	130	----
		Antimony, total	7440-36-0	E420	0.237 mg/L	0.2 mg/L	118	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	0.214 mg/L	0.2 mg/L	107	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.391 mg/L	0.4 mg/L	97.8	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0911 mg/L	0.1 mg/L	91.1	70.0	130	----
		Boron, total	7440-42-8	E420	1.12 mg/L	1 mg/L	112	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.0402 mg/L	0.04 mg/L	101	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.107 mg/L	0.1 mg/L	107	70.0	130	----
		Chromium, total	7440-47-3	E420	0.409 mg/L	0.4 mg/L	102	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.191 mg/L	0.2 mg/L	95.5	70.0	130	----
		Copper, total	7440-50-8	E420	0.186 mg/L	0.2 mg/L	92.9	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: 1669280) - continued										
YL2401532-002	Anonymous	Iron, total	7439-89-6	E420	ND mg/L	----	ND	70.0	130	----
		Lead, total	7439-92-1	E420	0.195 mg/L	0.2 mg/L	97.6	70.0	130	----
		Lithium, total	7439-93-2	E420	1.07 mg/L	1 mg/L	107	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	0.212 mg/L	0.2 mg/L	106	70.0	130	----
		Nickel, total	7440-02-0	E420	0.381 mg/L	0.4 mg/L	95.2	70.0	130	----
		Phosphorus, total	7723-14-0	E420	108 mg/L	100 mg/L	108	70.0	130	----
		Potassium, total	7440-09-7	E420	45.6 mg/L	40 mg/L	114	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.196 mg/L	0.2 mg/L	98.0	70.0	130	----
		Selenium, total	7782-49-2	E420	0.379 mg/L	0.4 mg/L	94.8	70.0	130	----
		Silicon, total	7440-21-3	E420	94.6 mg/L	100 mg/L	94.6	70.0	130	----
		Silver, total	7440-22-4	E420	0.0412 mg/L	0.04 mg/L	103	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	0.415 mg/L	0.4 mg/L	104	70.0	130	----
		Thallium, total	7440-28-0	E420	0.0343 mg/L	0.04 mg/L	85.7	70.0	130	----
		Thorium, total	7440-29-1	E420	0.195 mg/L	0.2 mg/L	97.4	70.0	130	----
		Tin, total	7440-31-5	E420	0.202 mg/L	0.2 mg/L	101	70.0	130	----
		Titanium, total	7440-32-6	E420	0.414 mg/L	0.4 mg/L	104	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.214 mg/L	0.2 mg/L	107	70.0	130	----
		Uranium, total	7440-61-1	E420	0.0350 mg/L	0.04 mg/L	87.6	70.0	130	----
		Vanadium, total	7440-62-2	E420	1.04 mg/L	1 mg/L	104	70.0	130	----
		Zinc, total	7440-66-6	E420	3.88 mg/L	4 mg/L	97.1	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.436 mg/L	0.4 mg/L	109	70.0	130	----
Total Metals (QCLot: 1669281)										
YL2401532-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.409 mg/L	0.4 mg/L	102	70.0	130	----
Total Metals (QCLot: 1672149)										
VA24C4371-004	Anonymous	Mercury, total	7439-97-6	E508	0.0000958 mg/L	0 mg/L	95.8	70.0	130	----
Dissolved Metals (QCLot: 1669299)										
YL2401526-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.203 mg/L	0.2 mg/L	101	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0232 mg/L	0.02 mg/L	116	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	0.0381 mg/L	0.04 mg/L	95.4	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00898 mg/L	0.01 mg/L	89.8	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00388 mg/L	0.004 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	0.0103 mg/L	0.01 mg/L	103	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0187 mg/L	0.02 mg/L	93.3	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: 1669299) - continued										
YL2401526-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0176 mg/L	0.02 mg/L	87.8	70.0	130	----
		Iron, dissolved	7439-89-6	E421	ND mg/L	----	ND	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.103 mg/L	0.1 mg/L	103	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	0.0211 mg/L	0.02 mg/L	106	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0366 mg/L	0.04 mg/L	91.6	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	10.5 mg/L	10 mg/L	105	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0191 mg/L	0.02 mg/L	95.7	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	8.70 mg/L	10 mg/L	87.0	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00401 mg/L	0.004 mg/L	100	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	0.0406 mg/L	0.04 mg/L	102	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00349 mg/L	0.004 mg/L	87.2	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0198 mg/L	0.02 mg/L	98.9	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0409 mg/L	0.04 mg/L	102	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0217 mg/L	0.02 mg/L	109	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	ND mg/L	----	ND	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.369 mg/L	0.4 mg/L	92.3	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0461 mg/L	0.04 mg/L	115	70.0	130	----
Dissolved Metals (QCLot: 1669300)										
YL2401526-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
Dissolved Metals (QCLot: 1672280)										
VA24C4886-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000952 mg/L	0 mg/L	95.2	70.0	130	----

Environmental Division
Yellowknife
Work Order Reference
YL2401536

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
gianidala@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 Reports To:

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:																					
√ = 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
MW00-04B-240916	MW00-04B	17-Sep-24	12:30	Water			G	8	X	X	X						
MW0004B-240917	MW00-04B	17-Sep-24	12:30	Water			G	8	X	X	X						
MW2105-240917	MW21-05	17-Sep-24	14:00	Water			G	8	X	X	X						

Relinquished by (Sampler Signature): Keenan Kakfwi	T.Kakfwi	**Date/Time:** 2024-September-19 9:02	**Company:** SLR Consulting
Received by (Name): Simon Arlooktoo	**Received by (Signature)** SA	**Company: ALS** SEPT 19/24	**Sample Receipt Temperature (deg. C):** 3.5

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	: **YL2401537**		
Amendment	: **2**		
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	: 19-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 19-Sep-2024
C-O-C number	: ----	Issue Date	: 25-Oct-2024 14:41
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
- 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
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Angelo Salandanan	Lab Assistant	Metals, Burnaby, British Columbia
Chamoi Beckford	Lab Assistant	Metals, Burnaby, British Columbia
Chau Tran	Analyst	Metals, Burnaby, British Columbia
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Jon Fisher	Production Manager, Environmental	Inorganics, Waterloo, Ontario
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Oliver Gregg	Client Services Supervisor	External Subcontracting, Yellowknife, Northwest Territories
Owen Cheng		Metals, Burnaby, British Columbia
Paul Cushing	Team Leader - Organics	Organics, Burnaby, British Columbia
Russell Zhang	Analyst	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
NTU	nephelometric turbidity units
µS/cm	microsiemens per centimetre
pH units	pH units
CFU/100mL	colony forming units per hundred millilitres
-	no units
meq/L	milliequivalents per litre
%	percent
µg/L	micrograms per litre

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	*Client Id*	*Comment*
YL2401537-006	TB-240918	Sample(s) : TB-240918: Sample received frozen (partially or completely)
YL2401537-006	TB-240918	**Sample(s) TB-240918: Sample Received but not listed on submitted Chain of Custody / analytical request form. Water sample container will be logged in as per other samples in the submission.**

Qualifiers

Qualifier	Description
CNP	Cyanide test sample appears to have been preserved, but pH was <10 at time of testing. Results may be biased low, particularly for Free CN species.
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	MW2103-240918	SNP431-G-240918	FB-SNP431-G-240918	SNP431-240918	SNP4321A-240918 HIGH ARSENIC
				Client sampling date / time	18-Sep-2024 12:17	18-Sep-2024 14:54	18-Sep-2024 14:54	18-Sep-2024 15:27	18-Sep-2024 18:12
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-001	YL2401537-002	YL2401537-003	YL2401537-004	YL2401537-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	303	----	----	43.5	176
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	303	----	----	43.5	176
Conductivity	----	E100/VA	1.0	µS/cm	1270	----	----	3390	2860
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	590	----	----	1660	1410
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	647	----	----	1720	1500
pH	----	E108/VA	0.10	pH units	7.76	----	----	7.78	8.09
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	937	----	----	2850	2170
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	70.9	----	----	<1.0	<1.0
Turbidity	----	E121/VA	0.10	NTU	77.2	----	----	0.49	0.58
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	1.13	0.0386	<0.0050	0.0373	0.760
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	0.259	----	----	5.95	5.35
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	39.4	----	----	507	448
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.225	----	----	<0.400 DLDS	<0.400 DLDS
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0250 DLDS	----	----	0.422	0.484
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0255	----	----	0.422	0.509
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0050 DLDS	----	----	<0.0200 DLDS	0.0253
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	23.2	----	----	1.31	11.6

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2103-240918	SNP431-G-240918	FB-SNP431-G-240918	SNP431-240918	SNP4321A-240918 HIGH ARSENIC
				Client sampling date / time	18-Sep-2024 12:17	18-Sep-2024 14:54	18-Sep-2024 14:54	18-Sep-2024 15:27	18-Sep-2024 18:12
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-001	YL2401537-002	YL2401537-003	YL2401537-004	YL2401537-005
					Result	Result	Result	Result	Result
Anions and Nutrients									
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	387	----	----	1190	805
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/WT	0.0050	mg/L	----	----	----	<0.0050	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	7.95	----	----	7.63	7.58
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	9.01	----	----	7.73	7.09
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	15.2	----	----	40.0	33.0
Cation sum	----	EC101/VA	0.10	meq/L	14.6	----	----	43.1	37.2
Ion balance (APHA)	----	EC101/VA	0.01	%	-2.01	----	----	3.73	5.98
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	1.34	----	----	0.0085	<0.0600 DLA
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.0104	----	----	0.230	0.718
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.103	----	----	0.255	26.8
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0462	----	----	0.0194	0.0524
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	----	----	<0.000100	<0.000400 DLA
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	----	----	<0.000100 DLA	<0.00100 DLA
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.104	----	----	0.385	0.348
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000683	----	----	0.0000238	0.000277

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

			Client sample ID		MW2103-240918	SNP431-G-240918	FB-SNP431-G-240918	SNP431-240918	SNP4321A-240918 HIGH ARSENIC
			Client sampling date / time		18-Sep-2024 12:17	18-Sep-2024 14:54	18-Sep-2024 14:54	18-Sep-2024 15:27	18-Sep-2024 18:12
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-001	YL2401537-002	YL2401537-003	YL2401537-004	YL2401537-005
					Result	Result	Result	Result	Result
Total Metals									
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	155	----	----	482	411
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000236	----	----	0.000403	0.000638
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00365	----	----	0.00028	0.00418
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	0.00365	----	----	<0.00100 DLA	<0.0100 DLA
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.0312	----	----	0.00526	0.0373
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00219	----	----	0.00786	<0.0100 DLA
Iron, total	7439-89-6	E420/VA	0.010	mg/L	6.37	----	----	0.042	0.232
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000818	----	----	<0.000100 DLA	0.00326
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0856	----	----	0.0425	0.0334
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	63.2	----	----	126	116
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	1.41	----	----	0.00537	0.511
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	0.000730	----	----	0.0182	0.0179
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00475	----	----	0.00899	0.0431
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	0.131	----	----	<0.100 DLA	<1.00 DLA
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	14.4	----	----	15.5	12.2
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00979	----	----	0.0123	0.00982
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000151	----	----	0.000347	<0.00100 DLA
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	13.8	----	----	0.63	5.41
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000043	----	----	0.000039	<0.000200 DLA
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	51.5	----	----	233	209

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2103-240918	SNP431-G-240918	FB-SNP431-G-240918	SNP431-240918	SNP4321A-240918 HIGH ARSENIC
				Client sampling date / time	18-Sep-2024 12:17	18-Sep-2024 14:54	18-Sep-2024 14:54	18-Sep-2024 15:27	18-Sep-2024 18:12
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-001	YL2401537-002	YL2401537-003	YL2401537-004	YL2401537-005
					Result	Result	Result	Result	Result
Total Metals									
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.458	----	----	4.45	4.42
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	142	----	----	440	280
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	0.00027	----	----	0.00054	<0.00400 DLA
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000029	----	----	0.000026	<0.000200 DLA
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	0.00068	----	----	<0.00020 DLA	<0.00200 DLA
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	0.00014	----	----	<0.00020 DLA	<0.00200 DLA
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.0737	----	----	<0.00060 DLA	<0.00600 DLA
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00035	----	----	0.00028	<0.00200 DLA
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00447	----	----	0.00255	0.00502
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00404	----	----	<0.00100 DLA	<0.0100 DLA
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0090	----	----	<0.0060 DLA	<0.0600 DLA
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00120	----	----	<0.00040 DLA	<0.00400 DLA
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0018	----	----	0.0075	<0.0200 DLA
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00803	----	----	0.217	0.725
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.0364	----	----	0.230	25.7
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0354	----	----	0.0189	0.0534
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	----	----	<0.000100	<0.000400 DLA
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	----	----	<0.000100 DLA	<0.00100 DLA
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.090	----	----	0.365	0.333
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000468	----	----	<0.0000200 DLM	0.000249

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	MW2103-240918	SNP431-G-240918	FB-SNP431-G-240918	SNP431-240918	SNP4321A-240918 HIGH ARSENIC
				Client sampling date / time	18-Sep-2024 12:17	18-Sep-2024 14:54	18-Sep-2024 14:54	18-Sep-2024 15:27	18-Sep-2024 18:12
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-001	YL2401537-002	YL2401537-003	YL2401537-004	YL2401537-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	138	----	----	467	382
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000024	----	----	0.000369	0.000606
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	----	----	0.00028	<0.00200 DLA
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	----	----	<0.00100 DLA	<0.0100 DLA
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.0286	----	----	0.00477	0.0356
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	<0.00020	----	----	0.00661	<0.00400 DLA
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	3.51	----	----	<0.020 DLA	<0.200 DLA
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	----	----	<0.000100 DLA	0.00290
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0679	----	----	0.0399	0.0316
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	59.5	----	----	119	111
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	1.25	----	----	0.00347	0.511
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	0.000625	----	----	0.0180	0.0167
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00228	----	----	0.00844	0.0411
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	----	----	<0.100 DLA	<1.00 DLA
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	13.9	----	----	15.4	11.4
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00712	----	----	0.0117	0.0104
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000118	----	----	0.000252	<0.00100 DLA
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	11.2	----	----	0.597	5.10
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	----	----	<0.000020 DLA	<0.000200 DLA
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	50.3	----	----	222	198

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	MW2103-240918	SNP431-G-240918	FB-SNP431-G-240918	SNP431-240918	SNP4321A-240918 HIGH ARSENIC
				Client sampling date / time	18-Sep-2024 12:17	18-Sep-2024 14:54	18-Sep-2024 14:54	18-Sep-2024 15:27	18-Sep-2024 18:12
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-001	YL2401537-002	YL2401537-003	YL2401537-004	YL2401537-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.464	----	----	4.34	4.34
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	130	----	----	411	266
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	----	----	<0.00040 DLA	<0.00400 DLA
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	----	----	0.000022	<0.000200 DLA
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	----	----	<0.00020 DLA	<0.00200 DLA
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	----	----	<0.00020 DLA	<0.00200 DLA
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	----	----	<0.00060 DLA	<0.00600 DLA
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00028	----	----	0.00026	<0.00200 DLA
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00400	----	----	0.00241	0.00495
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	----	----	<0.00100 DLA	<0.0100 DLA
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0026	----	----	0.0026	0.0480
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	0.00022	----	----	<0.00040 DLA	<0.00400 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

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2103-240918	SNP431-G-240918	FB-SNP431-G-240918	SNP431-240918	SNP4321A-240918 HIGH ARSENIC
				Client sampling date / time	18-Sep-2024 12:17	18-Sep-2024 14:54	18-Sep-2024 14:54	18-Sep-2024 15:27	18-Sep-2024 18:12
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-001	YL2401537-002	YL2401537-003	YL2401537-004	YL2401537-005
					Result	Result	Result	Result	Result
Volatile Organic Compounds [Fuels]									
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	%	----	----	----	91.8	86.3
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	----	----	101	112
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	----	----	91.1	93.0
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	TB-240918	----	----	----	----
				Client sampling date / time	18-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-006	----	----	----	----
					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	<1.0	----	----	----	----
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	5.38	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240918	----	----	----	----
				Client sampling date / time	18-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-006	----	----	----	----
					Result	----	----	----	----
Anions and Nutrients									
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	<0.30	----	----	----	----
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/WT	0.0050	mg/L	<0.0050 CNP	----	----	----	----
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	----	----	----	----
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	<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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240918	----	----	----	----
				Client sampling date / time	18-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-006	----	----	----	----
					Result	----	----	----	----
Total Metals									
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	----	----	----	----
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	0.060	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240918	----	----	----	----
				Client sampling date / time	18-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-006	----	----	----	----
					Result	----	----	----	----
Total Metals									
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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240918	----	----	----	----
				Client sampling date / time	18-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-006	----	----	----	----
					Result	----	----	----	----
Dissolved Metals									
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	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240918	----	----	----	----
				Client sampling date / time	18-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-006	----	----	----	----
					Result	----	----	----	----
Dissolved Metals									
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	-	-	N/A	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	N/A	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TB-240918	----	----	----	----
				Client sampling date / time	18-Sep-2024 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401537-006	----	----	----	----
					Result	----	----	----	----
Volatile Organic Compounds [Fuels]									
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	%	83.1	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	121	----	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	94.2	----	----	----	----
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	: **YL2401537**	Page	: 1 of 23
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	: 19-Sep-2024 09:02
PO	: YEL218	Issue Date	: 25-Oct-2024 14:41
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 Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Matrix Spike outliers occur.
- Laboratory Control Sample (LCS) 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
Laboratory Control Sample (LCS) Recoveries								
Total Metals	QC-MRG2-1670716 002	----	Boron, total	7440-42-8	E420	78.9 % MES	80.0-120%	Recovery less than lower control limit
Dissolved Metals	QC-MRG2-1669299 002	----	Lithium, dissolved	7439-93-2	E421	121 % MES	80.0-120%	Recovery greater than upper control limit

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-240918 - HIGH ARSENIC	E298	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) FB-SNP431-G-240918	E298	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP431-240918	E298	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	25-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP431-G-240918	E298	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW2103-240918	E298	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	25-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TB-240918	E298	18-Sep-2024	24-Sep-2024	28 days	7 days	✓	25-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP431-240918	E235.Br-L	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4321A-240918 - HIGH ARSENIC	E235.Br-L	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW2103-240918	E235.Br-L	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE TB-240918	E235.Br-L	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP431-240918	E235.Cl	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4321A-240918 - HIGH ARSENIC	E235.Cl	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW2103-240918	E235.Cl	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TB-240918	E235.Cl	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP431-240918	E235.F	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4321A-240918 - HIGH ARSENIC	E235.F	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW2103-240918	E235.F	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TB-240918	E235.F	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP431-240918	E235.NO3-L	18-Sep-2024	24-Sep-2024	3 days	5 days	✗ EHT	24-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4321A-240918 - HIGH ARSENIC	E235.NO3-L	18-Sep-2024	24-Sep-2024	3 days	5 days	✗ EHT	24-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW2103-240918	E235.NO3-L	18-Sep-2024	24-Sep-2024	3 days	6 days	✗ EHT	24-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE TB-240918	E235.NO3-L	18-Sep-2024	24-Sep-2024	3 days	6 days	✗ EHT	24-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP431-240918	E235.NO2-L	18-Sep-2024	24-Sep-2024	3 days	5 days	✗ EHT	24-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4321A-240918 - HIGH ARSENIC	E235.NO2-L	18-Sep-2024	24-Sep-2024	3 days	5 days	✗ EHT	24-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW2103-240918	E235.NO2-L	18-Sep-2024	24-Sep-2024	3 days	6 days	✗ EHT	24-Sep-2024	3 days	6 days	✗ EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE TB-240918	E235.NO2-L	18-Sep-2024	24-Sep-2024	3 days	6 days	✗ EHT	24-Sep-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW2103-240918	E392	18-Sep-2024	----	----	----		25-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP431-240918	E392	18-Sep-2024	----	----	----		25-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4321A-240918 - HIGH ARSENIC	E392	18-Sep-2024	----	----	----		25-Sep-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TB-240918	E392	18-Sep-2024	----	----	----		25-Sep-2024	28 days	8 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP431-240918	E235.SO4	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4321A-240918 - HIGH ARSENIC	E235.SO4	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW2103-240918	E235.SO4	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TB-240918	E235.SO4	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide) SNP431-240918	E333	18-Sep-2024	25-Sep-2024	14 days	7 days	✓	25-Sep-2024	14 days	7 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide) TB-240918	E333	18-Sep-2024	25-Sep-2024	14 days	8 days	✓	25-Sep-2024	14 days	8 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW2103-240918	E421.Cr-L	18-Sep-2024	09-Oct-2024	180 days	21 days	✓	09-Oct-2024	180 days	21 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP431-240918	E421.Cr-L	18-Sep-2024	25-Sep-2024	180 days	7 days	✓	25-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4321A-240918 - HIGH ARSENIC	E421.Cr-L	18-Sep-2024	25-Sep-2024	180 days	7 days	✓	25-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TB-240918	E421.Cr-L	18-Sep-2024	25-Sep-2024	180 days	7 days	✓	25-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW2103-240918	E509	18-Sep-2024	25-Sep-2024	28 days	7 days	✓	25-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP431-240918	E509	18-Sep-2024	25-Sep-2024	28 days	7 days	✓	25-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4321A-240918 - HIGH ARSENIC	E509	18-Sep-2024	25-Sep-2024	28 days	7 days	✓	25-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
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
TB-240918	E509	18-Sep-2024	26-Sep-2024	28 days	8 days	✓	26-Sep-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
MW2103-240918	E421	18-Sep-2024	09-Oct-2024	180 days	21 days	✓	10-Oct-2024	180 days	22 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SNP431-240918	E421	18-Sep-2024	25-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SNP4321A-240918 - HIGH ARSENIC	E421	18-Sep-2024	25-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
TB-240918	E421	18-Sep-2024	25-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
SNP431-240918	E601	18-Sep-2024	26-Sep-2024	14 days	8 days	✓	26-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
SNP4321A-240918 - HIGH ARSENIC	E601	18-Sep-2024	26-Sep-2024	14 days	8 days	✓	26-Sep-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
TB-240918	E601	18-Sep-2024	26-Sep-2024	14 days	8 days	✓	26-Sep-2024	40 days	1 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
SNP431-240918	E581.VH+F1	18-Sep-2024	24-Sep-2024	14 days	6 days	✓	25-Sep-2024	14 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP4321A-240918 - HIGH ARSENIC	E581.VH+F1	18-Sep-2024	24-Sep-2024	14 days	6 days	✓	25-Sep-2024	14 days	6 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) TB-240918	E581.VH+F1	18-Sep-2024	24-Sep-2024	14 days	7 days	✓	25-Sep-2024	14 days	7 days	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) SNP4321A-240918 - HIGH ARSENIC	FC-MF	18-Sep-2024	----	----	----		19-Sep-2024	30 hrs	15 hrs	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) TB-240918	FC-MF	18-Sep-2024	----	----	----		19-Sep-2024	30 hrs	34 hrs	× EHTR
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4321A-240918 - HIGH ARSENIC	E358-L	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	25-Sep-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW2103-240918	E358-L	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	25-Sep-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP431-240918	E358-L	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	25-Sep-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) TB-240918	E358-L	18-Sep-2024	24-Sep-2024	28 days	7 days	✓	24-Sep-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4321A-240918 - HIGH ARSENIC	E355-L	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW2103-240918	E355-L	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP431-240918	E355-L	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) TB-240918	E355-L	18-Sep-2024	24-Sep-2024	28 days	7 days	✓	24-Sep-2024	28 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP431-240918	E290	18-Sep-2024	24-Sep-2024	14 days	5 days	✓	24-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4321A-240918 - HIGH ARSENIC	E290	18-Sep-2024	24-Sep-2024	14 days	5 days	✓	24-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW2103-240918	E290	18-Sep-2024	24-Sep-2024	14 days	6 days	✓	24-Sep-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TB-240918	E290	18-Sep-2024	24-Sep-2024	14 days	6 days	✓	24-Sep-2024	14 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP431-240918	E100	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4321A-240918 - HIGH ARSENIC	E100	18-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE MW2103-240918	E100	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE TB-240918	E100	18-Sep-2024	24-Sep-2024	28 days	6 days	✓	24-Sep-2024	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE SNP4321A-240918 - HIGH ARSENIC	E108	18-Sep-2024	24-Sep-2024	0.25 hrs	126 hrs	✖ EHTR-FM	24-Sep-2024	0.25 hrs	137 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP431-240918	E108	18-Sep-2024	24-Sep-2024	0.25 hrs	129 hrs	✖ EHTR-FM	24-Sep-2024	0.25 hrs	140 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW2103-240918	E108	18-Sep-2024	24-Sep-2024	0.25 hrs	132 hrs	✖ EHTR-FM	24-Sep-2024	0.25 hrs	143 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE TB-240918	E108	18-Sep-2024	24-Sep-2024	0.25 hrs	144 hrs	✖ EHTR-FM	24-Sep-2024	0.25 hrs	156 hrs	✖ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP431-240918	E162-L	18-Sep-2024	----	----	----		25-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4321A-240918 - HIGH ARSENIC	E162-L	18-Sep-2024	----	----	----		25-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE TB-240918	E162-L	18-Sep-2024	----	----	----		24-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: 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 MW2103-240918	E162-L	18-Sep-2024	----	----	----		26-Sep-2024	7 days	8 days	× EHT
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW2103-240918	E160-L	18-Sep-2024	----	----	----		25-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP431-240918	E160-L	18-Sep-2024	----	----	----		25-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SNP4321A-240918 - HIGH ARSENIC	E160-L	18-Sep-2024	----	----	----		25-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] TB-240918	E160-L	18-Sep-2024	----	----	----		24-Sep-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SNP431-240918	E121	18-Sep-2024	----	----	----		25-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4321A-240918 - HIGH ARSENIC	E121	18-Sep-2024	----	----	----		25-Sep-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE TB-240918	E121	18-Sep-2024	----	----	----		25-Sep-2024	3 days	8 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW2103-240918	E121	18-Sep-2024	----	----	----		27-Sep-2024	3 days	9 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
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW2103-240918	E420.Cr-L	18-Sep-2024	10-Oct-2024	180 days	22 days	✓	10-Oct-2024	180 days	22 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP431-240918	E420.Cr-L	18-Sep-2024	25-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4321A-240918 - HIGH ARSENIC	E420.Cr-L	18-Sep-2024	25-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TB-240918	E420.Cr-L	18-Sep-2024	25-Sep-2024	180 days	8 days	✓	25-Sep-2024	180 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW2103-240918	E508	18-Sep-2024	25-Sep-2024	28 days	7 days	✓	25-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP431-240918	E508	18-Sep-2024	25-Sep-2024	28 days	7 days	✓	25-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4321A-240918 - HIGH ARSENIC	E508	18-Sep-2024	25-Sep-2024	28 days	7 days	✓	25-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) TB-240918	E508	18-Sep-2024	26-Sep-2024	28 days	8 days	✓	26-Sep-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) MW2103-240918	E420	18-Sep-2024	10-Oct-2024	180 days	22 days	✓	11-Oct-2024	180 days	23 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) SNP431-240918	E420	18-Sep-2024	25-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4321A-240918 - HIGH ARSENIC	E420	18-Sep-2024	25-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TB-240918	E420	18-Sep-2024	25-Sep-2024	180 days	8 days	✓	25-Sep-2024	180 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP431-240918	E611A	18-Sep-2024	24-Sep-2024	14 days	6 days	✓	25-Sep-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP4321A-240918 - HIGH ARSENIC	E611A	18-Sep-2024	24-Sep-2024	14 days	6 days	✓	25-Sep-2024	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) TB-240918	E611A	18-Sep-2024	24-Sep-2024	14 days	7 days	✓	25-Sep-2024	14 days	7 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.

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	1668474	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1668600	2	35	5.7	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1668479	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1671023	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1668478	1	16	6.2	5.0	✓
Conductivity in Water	E100	1668476	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1669300	3	21	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1672280	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1669299	3	42	7.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668603	2	25	8.0	5.0	✓
Fluoride in Water by IC	E235.F	1668477	1	16	6.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1668480	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1668481	1	20	5.0	5.0	✓
pH by Meter	E108	1668475	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1673012	2	34	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1668482	1	16	6.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1669719	3	34	8.8	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1669281	3	13	23.0	5.0	✓
Total Cyanide	E333	1673230	1	7	14.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1672150	2	20	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1669280	3	44	6.8	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668599	2	19	10.5	5.0	✓
Turbidity by Nephelometry	E121	1673272	2	40	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1671024	1	12	8.3	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1668474	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1668600	2	35	5.7	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1668479	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1671023	1	15	6.6	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1673707	1	19	5.2	5.0	✓
Chloride in Water by IC	E235.Cl	1668478	1	16	6.2	5.0	✓
Conductivity in Water	E100	1668476	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1669300	3	21	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1672280	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1669299	3	42	7.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668603	2	25	8.0	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							
Fluoride in Water by IC	E235.F	1668477	1	16	6.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1668480	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1668481	1	20	5.0	5.0	✓
pH by Meter	E108	1668475	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1673012	2	34	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1668482	1	16	6.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1669719	3	34	8.8	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1669281	3	13	23.0	5.0	✓
Total Cyanide	E333	1673230	1	7	14.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1672150	2	20	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1669280	3	44	6.8	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668599	2	19	10.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1669703	3	40	7.5	5.0	✓
Turbidity by Nephelometry	E121	1673272	2	40	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1671024	1	12	8.3	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1668474	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1668600	2	35	5.7	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1668479	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1671023	1	15	6.6	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1673707	1	19	5.2	5.0	✓
Chloride in Water by IC	E235.Cl	1668478	1	16	6.2	5.0	✓
Conductivity in Water	E100	1668476	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1669300	3	21	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1672280	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1669299	3	42	7.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668603	2	25	8.0	5.0	✓
Fluoride in Water by IC	E235.F	1668477	1	16	6.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1668480	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1668481	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673012	2	34	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1668482	1	16	6.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1669719	3	34	8.8	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1669281	3	13	23.0	5.0	✓
Total Cyanide	E333	1673230	1	7	14.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1672150	2	20	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1669280	3	44	6.8	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668599	2	19	10.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1669703	3	40	7.5	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	1673272	2	40	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1671024	1	12	8.3	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1668600	2	35	5.7	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1668479	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1671023	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1668478	1	16	6.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1669300	2	21	9.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1672280	2	25	8.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1669299	3	42	7.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668603	2	25	8.0	5.0	✓
Fluoride in Water by IC	E235.F	1668477	1	16	6.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1668480	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1668481	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673012	2	34	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1668482	1	16	6.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1669281	2	13	15.3	5.0	✓
Total Cyanide	E333	1673230	1	7	14.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1672150	2	20	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1669280	3	44	6.8	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668599	2	19	10.5	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1671024	1	12	8.3	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
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).
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.

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.
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 Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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	: **YL2401537**	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	: 19-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 19-Sep-2024
C-O-C number	: ----	Issue Date	: 25-Oct-2024 14:41
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:

- 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*
Angela Ren	Team Leader - Metals	Vancouver Metals, Burnaby, British Columbia
Angelo Salandanan	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Chamoi Beckford	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
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Dan Gebert	Laboratory Analyst	Vancouver Metals, Burnaby, British Columbia
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Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Oliver Gregg	Client Services Supervisor	Taiga Environmental Laboratory External Subcontracting, Yellowknife, Northwest Territories
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Paul Cushing	Team Leader - Organics	Vancouver Organics, Burnaby, British Columbia
Russell Zhang	Analyst	Vancouver Metals, Burnaby, British Columbia

Tracy Harley Supervisor - Water Quality Instrumentation Vancouver Inorganics, Burnaby, British Columbia

General Comments

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

Key :

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1668474)											
VA24C5127-002	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	79.1	78.8	0.380%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	4.0	4.6	14.0%	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	2.0	2.3	0.3	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	83.1	83.4	0.360%	20%	----
Physical Tests (QC Lot: 1668475)											
VA24C5127-002	Anonymous	pH	----	E108	0.10	pH units	8.56	8.58	0.233%	4%	----
Physical Tests (QC Lot: 1668476)											
VA24C5127-002	Anonymous	Conductivity	----	E100	2.0	µS/cm	160	159	0.563%	10%	----
Physical Tests (QC Lot: 1669719)											
YL2401526-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	972	935	3.83%	20%	----
Physical Tests (QC Lot: 1672679)											
VA24C5186-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	634	629	0.792%	20%	----
Physical Tests (QC Lot: 1673272)											
VA24C4865-001	Anonymous	Turbidity	----	E121	0.10	NTU	37.8	37.8	0.00%	15%	----
Physical Tests (QC Lot: 1673781)											
YL2401537-001	MW2103-240918	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	937	946	0.903%	20%	----
Physical Tests (QC Lot: 1678316)											
VA24C4889-007	Anonymous	Turbidity	----	E121	0.10	NTU	<0.10	<0.10	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1668477)											
YL2401532-001	Anonymous	Fluoride	16984-48-8	E235.F	0.400	mg/L	<0.400	<0.400	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1668478)											
YL2401532-001	Anonymous	Chloride	16887-00-6	E235.Cl	10.0	mg/L	465	504	8.14%	20%	----
Anions and Nutrients (QC Lot: 1668479)											
YL2401532-001	Anonymous	Bromide	24959-67-9	E235.Br-L	1.00	mg/L	3.78	4.09	0.305	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1668480)											
YL2401532-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1668481)											
YL2401532-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0200	mg/L	<0.0200	<0.0200	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: 1668482)											
YL2401532-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	6.00	mg/L	478	522	8.87%	20%	----
Anions and Nutrients (QC Lot: 1668600)											
VA24C4583-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0373	0.0373	0.00005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1670549)											
VA24C4866-043	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0108	0.0109	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1673012)											
VA24C4329-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	5.00	mg/L	7.23	7.10	0.13	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1673369)											
EO2408336-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	6.84	6.91	0.945%	20%	----
Cyanides (QC Lot: 1673230)											
VA24C5149-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1668599)											
VA24C4590-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	6.64	7.23	8.48%	20%	----
Organic / Inorganic Carbon (QC Lot: 1668603)											
VA24C4583-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.66	1.33	0.33	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1670546)											
VA24C4685-006	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	0.76	0.75	0.004	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1670553)											
VA24C4866-043	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.48	1.62	0.13	Diff <2x LOR	----
Total Metals (QC Lot: 1669280)											
YL2401532-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0060	mg/L	<0.0060	<0.0060	0	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00020	mg/L	0.00943	0.00938	0.584%	20%	----
		Arsenic, total	7440-38-2	E420	0.00020	mg/L	3.67	3.58	2.45%	20%	----
		Barium, total	7440-39-3	E420	0.00020	mg/L	0.0236	0.0233	1.20%	20%	----
		Beryllium, total	7440-41-7	E420	0.000040	mg/L	<0.000040	<0.000040	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.020	mg/L	0.410	0.413	0.621%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000100	mg/L	<0.0000150	<0.0000100	0.0000050	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.100	mg/L	329	336	1.92%	20%	----
		Cesium, total	7440-46-2	E420	0.000020	mg/L	0.00129	0.00129	0.0834%	20%	----
		Chromium, total	7440-47-3	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00020	mg/L	0.0128	0.0128	0.284%	20%	----
		Copper, total	7440-50-8	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	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
					Laboratory Duplicate (DUP) Report						
Total Metals (QC Lot: 1669280) - continued											
YL2401532-001	Anonymous	Iron, total	7439-89-6	E420	0.020	mg/L	4.21	4.41	4.62%	20%	----
		Lead, total	7439-92-1	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0020	mg/L	0.0457	0.0449	1.74%	20%	----
		Magnesium, total	7439-95-4	E420	0.0100	mg/L	80.1	80.2	0.143%	20%	----
		Manganese, total	7439-96-5	E420	0.00020	mg/L	0.803	0.826	2.76%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000100	mg/L	0.0122	0.0122	0.0864%	20%	----
		Nickel, total	7440-02-0	E420	0.00100	mg/L	0.00771	0.00761	0.00010	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.100	mg/L	13.7	14.0	1.81%	20%	----
		Rubidium, total	7440-17-7	E420	0.00040	mg/L	0.00899	0.00911	1.34%	20%	----
		Selenium, total	7782-49-2	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.20	mg/L	4.57	4.92	7.46%	20%	----
		Silver, total	7440-22-4	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.100	mg/L	226	230	1.48%	20%	----
		Strontium, total	7440-24-6	E420	0.00040	mg/L	2.41	2.40	0.327%	20%	----
		Sulfur, total	7704-34-9	E420	1.00	mg/L	182	194	6.58%	20%	----
		Tellurium, total	13494-80-9	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00020	mg/L	0.00167	0.00172	0.00005	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000020	mg/L	0.00492	0.00505	2.52%	20%	----
		Vanadium, total	7440-62-2	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0060	mg/L	0.252	0.254	1.10%	20%	----
		Zirconium, total	7440-67-7	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
Total Metals (QC Lot: 1669281)											
YL2401532-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1670716)											
YL2401537-006	TB-240918	Aluminum, total	7429-90-5	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	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: 1670716) - continued											
YL2401537-006	TB-240918	Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	0.060	<0.050	0.010	Diff <2x LOR	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----

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: 1670717)											
YL2401537-006	TB-240918	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Total Metals (QC Lot: 1672150)											
YL2401537-001	MW2103-240918	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1674741)											
FJ2402844-006	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1688031)											
VA24C6025-001	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: 1688032)											
VA24C6025-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0482	0.0529	9.25%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00734	0.00728	0.799%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00304	0.00301	1.04%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0424	0.0427	0.829%	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	0.082	0.083	0.0006	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000218	0.0000234	0.0000016	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	24.9	24.2	3.08%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.00147	0.00145	1.90%	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	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.026	0.026	0.0005	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000302	0.000298	0.000004	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0490	0.0452	8.00%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	1.64	1.62	0.901%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0433	0.0434	0.242%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00832	0.00839	0.821%	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	10.4	10.6	1.86%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.0138	0.0136	1.51%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000759	0.000685	10.2%	20%	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	1.38	1.30	5.50%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	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: 1688032) - continued											
VA24C6025-001	Anonymous	Sodium, total	7440-23-5	E420	0.050	mg/L	24.7	23.8	3.85%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.390	0.389	0.350%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	21.8	20.5	6.20%	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	0.000042	0.000040	0.000002	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.00046	0.00042	0.00004	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00088	0.00083	0.00005	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000387	0.000375	3.18%	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	----
Dissolved Metals (QC Lot: 1669299)											
YL2401526-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0020	mg/L	0.0026	0.0027	0.00006	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00020	mg/L	0.0126	0.0128	1.80%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00020	mg/L	0.00350	0.00351	0.242%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000040	mg/L	<0.000040	<0.000040	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	0.622	0.642	3.23%	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	0.100	mg/L	11.4	11.2	1.99%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000020	mg/L	0.000043	0.000043	0.0000003	Diff <2x LOR	----
		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	<0.00020	<0.00020	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.020	mg/L	0.065	0.065	0.0005	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	0.0423	0.0436	3.00%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	2.96	2.99	0.944%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00020	mg/L	0.0214	0.0213	0.519%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000100	mg/L	0.00122	0.00119	2.24%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00100	mg/L	0.00105	0.00109	0.00004	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: 1669299) - continued											
YL2401526-001	Anonymous	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	1.25	1.27	1.51%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00040	mg/L	0.00088	0.00096	0.00007	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.100	mg/L	14.0	14.5	3.10%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.100	mg/L	340	338	0.556%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00040	mg/L	0.176	0.180	1.99%	20%	----
		Sulfur, dissolved	7704-34-9	E421	1.00	mg/L	110	113	3.05%	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	<0.000020	<0.000020	0	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	0.00093	0.00094	0.000002	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000020	mg/L	0.000101	0.000106	0.000005	Diff <2x LOR	----
		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: 1669300)											
YL2401526-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1671836)											
YL2401537-006	TB-240918	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	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		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	<0.010	<0.010	0	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	<0.050	<0.050	0	Diff <2x LOR	----
		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	----

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: 1671836) - continued											
YL2401537-006	TB-240918	Copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	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	<0.0010	<0.0010	0	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	<0.000050	<0.000050	0	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	<0.050	<0.050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	<0.050	<0.050	0	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	<0.050	<0.050	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		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	<0.000010	<0.000010	0	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	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1671837)											
YL2401537-006	TB-240918	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1672280)											
VA24C4886-002	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: 1673855)											
VA24C4940-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1688065)											

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: 1688065) - continued											
VA24C6025-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1688066)											
VA24C6025-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0158	0.0142	10.4%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00679	0.00676	0.399%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00276	0.00278	0.879%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0436	0.0450	3.18%	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	0.078	0.080	0.002	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000166	0.0000166	0.00000003	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	22.1	22.6	1.92%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.00145	0.00146	0.949%	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	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	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	0.0453	0.0452	0.281%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	1.67	1.67	0.305%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0374	0.0377	0.971%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00804	0.00804	0.0158%	20%	----
		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	11.8	11.6	1.18%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.0145	0.0149	2.45%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000652	0.000692	5.96%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	1.31	1.32	0.721%	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	24.4	25.0	2.21%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.398	0.402	0.915%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	20.8	20.4	1.60%	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	0.000040	0.000039	0.000001	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	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
Dissolved Metals (QC Lot: 1688066) - continued											
VA24C6025-001	Anonymous	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	0.00082	0.00080	0.00002	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000353	0.000354	0.359%	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	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1671023)											
VA24C4472-001	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: 1671024)											
VA24C4495-001	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: 1668474)						
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: 1668476)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1669703)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1669719)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1672678)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1672679)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1673272)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1673609)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1673781)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1678316)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1668477)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1668478)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1668479)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1668480)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1668481)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1668481) - continued						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1668482)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1668600)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1670549)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1673012)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1673369)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Cyanides (QCLot: 1673230)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1668599)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1668603)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1670546)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1670553)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1669280)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1669280) - continued						
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: 1669281)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1670716)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1670716) - continued						
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 1670717)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1672150)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1674741)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1688031)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1688032)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1688032) - continued						
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1669299)						
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: 1669299) - 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: 1669300)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1671836)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1671836) - continued						
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: 1671837)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1672280)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1673855)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1688065)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1688066)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1688066) - continued						
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	----
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1671023)						
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: 1671024)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1673707)						
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: 1668474)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	95.4	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	101	85.0	115	----
Physical Tests (QCLot: 1668475)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1668476)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	96.7	90.0	110	----
Physical Tests (QCLot: 1669703)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	100	85.0	115	----
Physical Tests (QCLot: 1669719)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1672678)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	107	85.0	115	----
Physical Tests (QCLot: 1672679)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	98.0	85.0	115	----
Physical Tests (QCLot: 1673272)									
Turbidity	----	E121	0.1	NTU	200 NTU	96.5	85.0	115	----
Physical Tests (QCLot: 1673609)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	89.7	85.0	115	----
Physical Tests (QCLot: 1673781)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1678316)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Anions and Nutrients (QCLot: 1668477)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	99.1	90.0	110	----
Anions and Nutrients (QCLot: 1668478)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.6	90.0	110	----
Anions and Nutrients (QCLot: 1668479)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	98.5	85.0	115	----
Anions and Nutrients (QCLot: 1668480)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 1668481)									

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: 1668481) - continued									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	99.5	90.0	110	----
Anions and Nutrients (QCLot: 1668482)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1668600)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1670549)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1673012)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1673369)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	102	85.0	115	----
Cyanides (QCLot: 1673230)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	83.2	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1668599)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1668603)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	99.9	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1670546)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	116	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1670553)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	99.0	80.0	120	----
Total Metals (QCLot: 1669280)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	103	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	117	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	109	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	99.6	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	96.7	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	98.2	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	97.3	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	95.8	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	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: 1669280) - continued									
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	99.8	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.4	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	88.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	102	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	114	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	101	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	100	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	99.1	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	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	94.4	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	96.7	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	98.2	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	118	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	102	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	96.5	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	85.7	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	99.8	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	95.1	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	88.2	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	98.1	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.9	80.0	120	----
Total Metals (QCLot: 1669281)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Total Metals (QCLot: 1670716)									
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	108	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	89.1	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
Total Metals (QCLot: 1670716) - continued									
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	95.5	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	# 78.9	80.0	120	MES
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	93.8	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	95.5	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	99.6	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	96.2	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	90.8	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	103	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	99.3	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	111	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	98.3	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	96.0	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	106	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	114	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	90.1	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	100	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	96.2	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	89.3	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	97.0	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	96.0	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	97.0	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	97.1	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	97.2	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	103	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	94.2	80.0	120	----
Total Metals (QCLot: 1670717)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 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: 1672150)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	95.9	80.0	120	----
Total Metals (QCLot: 1674741)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	93.2	80.0	120	----
Total Metals (QCLot: 1688031)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Total Metals (QCLot: 1688032)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	106	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	108	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	100.0	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	99.6	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	105	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	94.0	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	101	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	98.2	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	103	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	95.3	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	101	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	107	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	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	100	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	98.4	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	100	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	106	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	93.0	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	97.5	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	98.8	80.0	120	----
Tellurium, total	13494-80-9	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: 1688032) - continued									
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	106	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	100	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	101	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	106	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	108	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	99.2	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.8	80.0	120	----
Dissolved Metals (QCLot: 1669299)									
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	118	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	111	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	93.0	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	99.4	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	98.5	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	98.4	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	92.6	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	97.7	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	94.9	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	88.8	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	# 121	80.0	120	MES
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	101	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	105	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	97.7	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	102	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	96.5	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	95.2	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 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: 1669299) - continued									
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	98.2	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	116	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	103	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	104	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	89.5	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	98.4	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	101	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	89.4	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	97.6	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Dissolved Metals (QCLot: 1669300)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Dissolved Metals (QCLot: 1671836)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	95.4	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	98.0	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	91.9	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	99.2	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	99.8	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	95.5	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	97.8	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	98.9	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	96.7	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	92.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	92.6	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	95.7	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	99.3	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	97.7	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	99.3	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	97.2	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: 1671836) - continued									
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	93.1	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	94.8	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	97.0	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	94.4	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	94.6	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	95.1	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	87.6	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	98.1	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	100	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	86.4	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	99.0	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	98.9	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	96.2	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	99.1	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	99.5	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	93.6	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	92.5	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	95.8	80.0	120	----
Dissolved Metals (QCLot: 1671837)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	96.7	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	95.4	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	96.1	80.0	120	----
Dissolved Metals (QCLot: 1688065)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	99.7	80.0	120	----
Dissolved Metals (QCLot: 1688066)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	96.2	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	95.8	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	104	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	91.7	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	91.2	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	99.5	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	92.2	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: 1688066) - continued									
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	99.7	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	99.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	99.9	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	103	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	99.8	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	90.5	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	98.3	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	98.4	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	97.6	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	98.6	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	89.8	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	98.1	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	100	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	90.0	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	99.1	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	104	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	95.7	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	98.0	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	96.3	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	97.0	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	101	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	96.8	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	97.2	80.0	120	----
Volatile Organic Compounds (QCLot: 1671023)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	92.1	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	90.4	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	91.6	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
Volatile Organic Compounds (QCLot: 1671023) - continued									
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	91.6	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	94.4	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	90.3	70.0	130	----
Hydrocarbons (QCLot: 1671024)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	80.4	70.0	130	----
Hydrocarbons (QCLot: 1673707)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	106	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	100	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	107	70.0	130	----

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).*

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: 1668477)										
YL2401532-002	Anonymous	Fluoride	16984-48-8	E235.F	49.4 mg/L	50 mg/L	98.9	75.0	125	----
Anions and Nutrients (QCLot: 1668478)										
YL2401532-002	Anonymous	Chloride	16887-00-6	E235.Cl	4970 mg/L	5000 mg/L	99.4	75.0	125	----
Anions and Nutrients (QCLot: 1668479)										
YL2401532-002	Anonymous	Bromide	24959-67-9	E235.Br-L	24.6 mg/L	25 mg/L	98.5	75.0	125	----
Anions and Nutrients (QCLot: 1668480)										
YL2401532-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	123 mg/L	125 mg/L	98.7	75.0	125	----
Anions and Nutrients (QCLot: 1668481)										
YL2401532-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	24.6 mg/L	25 mg/L	98.4	75.0	125	----
Anions and Nutrients (QCLot: 1668482)										
YL2401532-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	5010 mg/L	5000 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1668600)										
VA24C4583-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1670549)										
VA24C4866-044	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0986 mg/L	0.1 mg/L	98.6	75.0	125	----
Anions and Nutrients (QCLot: 1673012)										
VA24C4329-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	97.4 mg/L	100 mg/L	97.4	75.0	125	----
Anions and Nutrients (QCLot: 1673369)										
EO2408336-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.2 mg/L	10 mg/L	102	75.0	125	----
Cyanides (QCLot: 1673230)										
VA24C5149-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.214 mg/L	0.25 mg/L	85.4	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1668599)										
VA24C4590-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1668603)										
VA24C4583-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.30 mg/L	5 mg/L	106	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1670546)										
VA24C4685-013	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.06 mg/L	5 mg/L	101	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1670553)										
VA24C4866-044	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.14 mg/L	5 mg/L	103	70.0	130	----
Total Metals (QCLot: 1669280)										

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: 1669280) - continued										
YL2401532-002	Anonymous	Aluminum, total	7429-90-5	E420	2.12 mg/L	2 mg/L	106	70.0	130	----
		Antimony, total	7440-36-0	E420	0.237 mg/L	0.2 mg/L	118	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	0.214 mg/L	0.2 mg/L	107	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.391 mg/L	0.4 mg/L	97.8	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0911 mg/L	0.1 mg/L	91.1	70.0	130	----
		Boron, total	7440-42-8	E420	1.12 mg/L	1 mg/L	112	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.0402 mg/L	0.04 mg/L	101	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.107 mg/L	0.1 mg/L	107	70.0	130	----
		Chromium, total	7440-47-3	E420	0.409 mg/L	0.4 mg/L	102	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.191 mg/L	0.2 mg/L	95.5	70.0	130	----
		Copper, total	7440-50-8	E420	0.186 mg/L	0.2 mg/L	92.9	70.0	130	----
		Iron, total	7439-89-6	E420	ND mg/L	----	ND	70.0	130	----
		Lead, total	7439-92-1	E420	0.195 mg/L	0.2 mg/L	97.6	70.0	130	----
		Lithium, total	7439-93-2	E420	1.07 mg/L	1 mg/L	107	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	0.212 mg/L	0.2 mg/L	106	70.0	130	----
		Nickel, total	7440-02-0	E420	0.381 mg/L	0.4 mg/L	95.2	70.0	130	----
		Phosphorus, total	7723-14-0	E420	108 mg/L	100 mg/L	108	70.0	130	----
		Potassium, total	7440-09-7	E420	45.6 mg/L	40 mg/L	114	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.196 mg/L	0.2 mg/L	98.0	70.0	130	----
		Selenium, total	7782-49-2	E420	0.379 mg/L	0.4 mg/L	94.8	70.0	130	----
		Silicon, total	7440-21-3	E420	94.6 mg/L	100 mg/L	94.6	70.0	130	----
		Silver, total	7440-22-4	E420	0.0412 mg/L	0.04 mg/L	103	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	0.415 mg/L	0.4 mg/L	104	70.0	130	----
		Thallium, total	7440-28-0	E420	0.0343 mg/L	0.04 mg/L	85.7	70.0	130	----
		Thorium, total	7440-29-1	E420	0.195 mg/L	0.2 mg/L	97.4	70.0	130	----
		Tin, total	7440-31-5	E420	0.202 mg/L	0.2 mg/L	101	70.0	130	----
		Titanium, total	7440-32-6	E420	0.414 mg/L	0.4 mg/L	104	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.214 mg/L	0.2 mg/L	107	70.0	130	----
		Uranium, total	7440-61-1	E420	0.0350 mg/L	0.04 mg/L	87.6	70.0	130	----
		Vanadium, total	7440-62-2	E420	1.04 mg/L	1 mg/L	104	70.0	130	----
		Zinc, total	7440-66-6	E420	3.88 mg/L	4 mg/L	97.1	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.436 mg/L	0.4 mg/L	109	70.0	130	----
Total Metals (QCLot: 1669281)										
YL2401532-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.409 mg/L	0.4 mg/L	102	70.0	130	----
Total Metals (QCLot: 1670716)										
VA24C4660-001	Anonymous	Aluminum, total	7429-90-5	E420	0.199 mg/L	0.2 mg/L	99.4	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: 1670716) - continued										
VA24C4660-001	Anonymous	Antimony, total	7440-36-0	E420	0.0199 mg/L	0.02 mg/L	99.3	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0386 mg/L	0.04 mg/L	96.6	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00874 mg/L	0.01 mg/L	87.4	70.0	130	----
		Boron, total	7440-42-8	E420	0.096 mg/L	0.1 mg/L	95.5	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00376 mg/L	0.004 mg/L	93.9	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00968 mg/L	0.01 mg/L	96.8	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0389 mg/L	0.04 mg/L	97.2	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0189 mg/L	0.02 mg/L	94.5	70.0	130	----
		Copper, total	7440-50-8	E420	0.0182 mg/L	0.02 mg/L	91.1	70.0	130	----
		Iron, total	7439-89-6	E420	1.88 mg/L	2 mg/L	93.9	70.0	130	----
		Lead, total	7439-92-1	E420	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0963 mg/L	0.1 mg/L	96.3	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0193 mg/L	0.02 mg/L	96.4	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0200 mg/L	0.02 mg/L	100	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0374 mg/L	0.04 mg/L	93.4	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.8 mg/L	10 mg/L	108	70.0	130	----
		Potassium, total	7440-09-7	E420	3.96 mg/L	4 mg/L	99.0	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0390 mg/L	0.04 mg/L	97.6	70.0	130	----
		Silicon, total	7440-21-3	E420	9.38 mg/L	10 mg/L	93.8	70.0	130	----
		Silver, total	7440-22-4	E420	0.00385 mg/L	0.004 mg/L	96.2	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	0.0382 mg/L	0.04 mg/L	95.4	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00362 mg/L	0.004 mg/L	90.6	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0192 mg/L	0.02 mg/L	96.1	70.0	130	----
		Tin, total	7440-31-5	E420	0.0191 mg/L	0.02 mg/L	95.5	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0391 mg/L	0.04 mg/L	97.7	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0998 mg/L	0.1 mg/L	99.8	70.0	130	----
		Zinc, total	7440-66-6	E420	0.384 mg/L	0.4 mg/L	96.1	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
Total Metals (QCLot: 1672150)										
YL2401537-004	SNP431-240918	Mercury, total	7439-97-6	E508	0.0000951 mg/L	0 mg/L	95.1	70.0	130	----
Total Metals (QCLot: 1674741)										
VA24C4940-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000897 mg/L	0 mg/L	89.7	70.0	130	----
Total Metals (QCLot: 1688031)										

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: 1688031) - continued										
VA24C6027-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0376 mg/L	0.04 mg/L	94.1	70.0	130	----
Total Metals (QCLot: 1688032)										
VA24C6027-001	Anonymous	Aluminum, total	7429-90-5	E420	0.197 mg/L	0.2 mg/L	98.4	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0205 mg/L	0.02 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	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00994 mg/L	0.01 mg/L	99.4	70.0	130	----
		Boron, total	7440-42-8	E420	0.093 mg/L	0.1 mg/L	93.2	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00387 mg/L	0.004 mg/L	96.8	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00915 mg/L	0.01 mg/L	91.5	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0376 mg/L	0.04 mg/L	94.1	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0196 mg/L	0.02 mg/L	98.0	70.0	130	----
		Copper, total	7440-50-8	E420	0.0189 mg/L	0.02 mg/L	94.3	70.0	130	----
		Iron, total	7439-89-6	E420	1.80 mg/L	2 mg/L	89.9	70.0	130	----
		Lead, total	7439-92-1	E420	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Lithium, total	7439-93-2	E420	0.104 mg/L	0.1 mg/L	104	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	0.0187 mg/L	0.02 mg/L	93.5	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0385 mg/L	0.04 mg/L	96.3	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.83 mg/L	10 mg/L	98.3	70.0	130	----
		Potassium, total	7440-09-7	E420	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	0.0387 mg/L	0.04 mg/L	96.8	70.0	130	----
		Silicon, total	7440-21-3	E420	9.14 mg/L	10 mg/L	91.4	70.0	130	----
		Silver, total	7440-22-4	E420	0.00369 mg/L	0.004 mg/L	92.4	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	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00382 mg/L	0.004 mg/L	95.6	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0196 mg/L	0.02 mg/L	98.1	70.0	130	----
		Tin, total	7440-31-5	E420	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0384 mg/L	0.04 mg/L	96.1	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0199 mg/L	0.02 mg/L	99.7	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00411 mg/L	0.004 mg/L	103	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0978 mg/L	0.1 mg/L	97.8	70.0	130	----
		Zinc, total	7440-66-6	E420	0.385 mg/L	0.4 mg/L	96.3	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
Dissolved Metals (QCLot: 1669299)										
YL2401526-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.203 mg/L	0.2 mg/L	101	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: 1669299) - continued										
YL2401526-002	Anonymous	Antimony, dissolved	7440-36-0	E421	0.0232 mg/L	0.02 mg/L	116	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	0.0381 mg/L	0.04 mg/L	95.4	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00898 mg/L	0.01 mg/L	89.8	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00388 mg/L	0.004 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	0.0103 mg/L	0.01 mg/L	103	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0187 mg/L	0.02 mg/L	93.3	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0176 mg/L	0.02 mg/L	87.8	70.0	130	----
		Iron, dissolved	7439-89-6	E421	ND mg/L	----	ND	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.103 mg/L	0.1 mg/L	103	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	0.0211 mg/L	0.02 mg/L	106	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0366 mg/L	0.04 mg/L	91.6	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	10.5 mg/L	10 mg/L	105	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0191 mg/L	0.02 mg/L	95.7	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	8.70 mg/L	10 mg/L	87.0	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00401 mg/L	0.004 mg/L	100	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	0.0406 mg/L	0.04 mg/L	102	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00349 mg/L	0.004 mg/L	87.2	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0198 mg/L	0.02 mg/L	98.9	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0409 mg/L	0.04 mg/L	102	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0217 mg/L	0.02 mg/L	109	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	ND mg/L	----	ND	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.369 mg/L	0.4 mg/L	92.3	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0461 mg/L	0.04 mg/L	115	70.0	130	----
Dissolved Metals (QCLot: 1669300)										
YL2401526-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
Dissolved Metals (QCLot: 1671836)										
VA24C4660-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.186 mg/L	0.2 mg/L	93.0	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0198 mg/L	0.02 mg/L	98.9	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: 1671836) - continued										
VA24C4660-001	Anonymous	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	0.0380 mg/L	0.04 mg/L	95.1	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00862 mg/L	0.01 mg/L	86.2	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00382 mg/L	0.004 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	0.0100 mg/L	0.01 mg/L	100	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0376 mg/L	0.04 mg/L	93.9	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0179 mg/L	0.02 mg/L	89.4	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0172 mg/L	0.02 mg/L	86.2	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.87 mg/L	2 mg/L	93.7	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0181 mg/L	0.02 mg/L	90.4	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0944 mg/L	0.1 mg/L	94.4	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0175 mg/L	0.02 mg/L	87.4	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0347 mg/L	0.04 mg/L	86.8	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.87 mg/L	10 mg/L	98.7	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.60 mg/L	4 mg/L	90.0	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0180 mg/L	0.02 mg/L	90.3	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0419 mg/L	0.04 mg/L	105	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	8.89 mg/L	10 mg/L	88.9	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00373 mg/L	0.004 mg/L	93.2	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	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00368 mg/L	0.004 mg/L	91.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0191 mg/L	0.02 mg/L	95.4	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0373 mg/L	0.04 mg/L	93.3	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0193 mg/L	0.02 mg/L	96.4	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	ND mg/L	----	ND	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0943 mg/L	0.1 mg/L	94.3	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.359 mg/L	0.4 mg/L	89.8	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0400 mg/L	0.04 mg/L	100	70.0	130	----
Dissolved Metals (QCLot: 1672280)										
VA24C4886-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000952 mg/L	0 mg/L	95.2	70.0	130	----
Dissolved Metals (QCLot: 1673855)										
VA24C4950-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000943 mg/L	0 mg/L	94.3	70.0	130	----
Dissolved Metals (QCLot: 1688065)										
VA24C6027-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0388 mg/L	0.04 mg/L	96.9	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: 1688066)										
VA24C6027-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.192 mg/L	0.2 mg/L	96.0	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0185 mg/L	0.02 mg/L	92.5	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0207 mg/L	0.02 mg/L	104	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0369 mg/L	0.04 mg/L	92.3	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00947 mg/L	0.01 mg/L	94.7	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.082 mg/L	0.1 mg/L	81.7	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00401 mg/L	0.004 mg/L	100	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00970 mg/L	0.01 mg/L	97.0	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0388 mg/L	0.04 mg/L	96.9	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0196 mg/L	0.02 mg/L	98.1	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0193 mg/L	0.02 mg/L	96.4	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.91 mg/L	2 mg/L	95.7	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0860 mg/L	0.1 mg/L	86.0	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	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0390 mg/L	0.04 mg/L	97.6	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.63 mg/L	10 mg/L	96.3	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0393 mg/L	0.04 mg/L	98.2	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.86 mg/L	10 mg/L	98.6	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00378 mg/L	0.004 mg/L	94.4	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	0.0371 mg/L	0.04 mg/L	92.9	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00368 mg/L	0.004 mg/L	92.1	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	0.0189 mg/L	0.02 mg/L	94.7	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0395 mg/L	0.04 mg/L	98.7	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00388 mg/L	0.004 mg/L	97.0	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.376 mg/L	0.4 mg/L	94.1	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0394 mg/L	0.04 mg/L	98.5	70.0	130	----
Volatile Organic Compounds (QCLot: 1671023)										
VA24C4472-001	Anonymous	Benzene	71-43-2	E611A	97.7 µg/L	100 µg/L	97.7	60.0	140	----
		Ethylbenzene	100-41-4	E611A	92.9 µg/L	100 µg/L	92.9	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	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: 1671023) - continued										
VA24C4472-001	Anonymous	Toluene	108-88-3	E611A	94.1 µg/L	100 µg/L	94.1	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	196 µg/L	200 µg/L	98.0	60.0	140	----
		Xylene, o-	95-47-6	E611A	94.3 µg/L	100 µg/L	94.3	60.0	140	----
Hydrocarbons (QCLot: 1671024)										
YL2401537-004	SNP431-240918	F1 (C6-C10)	----	E581.VH+F1	4670 µg/L	6310 µg/L	74.0	60.0	140	----

Taiga Batch No.:
241451

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: 24-Sep-24
Print Date: *24-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.: 241451

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401537-005 SNP4321A-240918 **Taiga Sample ID:** 001

Client Project:
Sample Type: Water
Received Date: 19-Sep-24
Sampling Date: 18-Sep-24
Sampling Time: 18:12
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	19-Sep-24	TEL017	

ReportDate: 24-Sep-24
Print Date: *24-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.: 241451

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401537-006 TB-240918 **Taiga Sample ID:** 002

Client Project:
Sample Type: Water
Received Date: 19-Sep-24
Sampling Date: 18-Sep-24
Sampling Time: 0:00
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	19-Sep-24	TEL017	

ReportDate: 24-Sep-24
Print Date: *24-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.: **241451**

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **YL2401537-006 TB-240918** **Taiga Sample ID:** **002**

*** 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: 24-Sep-24

Print Date: *24-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
cperkins@slrconsulting.com
giantmine.environmental@parsons.com
giantdata@ircaanc-oirnac.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	Total Ammonia
MW2103-240918	MW21-03	18-Sep-24	12:17	Water			G	8	X	X	X						
SNP431-G-240918	SNP 43-1	18-Sep-24	14:54	Water			G	1									X
FB-SNP431-G-240918	SNP 43-1	18-Sep-24	14:54	Water			G	1									X
SNP431-240918	SNP 43-1	18-Sep-24	15:27	Water			C	13	X	X	X	X		X			
SNP4321A-240918	SNP 43-21A	18-Sep-24	18:12	Water		HIGH ARSENIC	G	13`	X	X	X	X			X		
TB-240918	Trip Blank	18-Sep-24	-	Water			G	13	X	X	X	X		X			

Environmental Division
Yellowknife
Work Order Reference
YL2401537

Telephone : +1 867 873 5593

Relinquished by (Sampler Signature): Keenan Kakfwi
Date/Time: 2024-September-19 9:02
Company: SLR Consulting

Received by (Name): Simon Arlooktoo
Received by (Signature)
Company: ALS SEPT 19/24
Sample Receipt Temperature (deg. C): 3.5

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	: **YL2401552**	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	: 20-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 23-Sep-2024
C-O-C number	: ----	Issue Date	: 28-Sep-2024 18:09
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

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
Chau Tran	Analyst	Metals, Burnaby, British Columbia
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Metals, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

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

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

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

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

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
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*
RRV	*Reported result verified by repeat analysis.*

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2114-240919	MW2115-240919	FB-MW2115-240919	EB-240919	----
				Client sampling date / time	19-Sep-2024 11:32	19-Sep-2024 13:58	19-Sep-2024 13:58	19-Sep-2024 18:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401552-001	YL2401552-002	YL2401552-003	YL2401552-004	--------
					Result	Result	Result	Result	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	----	248	<1.0	<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	----	248	<1.0	<1.0	----
Conductivity	----	E100/VA	1.0	µS/cm	----	494	<1.0	<1.0	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	147	255	<0.60	<0.60	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	----	260	<0.60	<0.60	----
pH	----	E108/VA	0.10	pH units	----	7.62	5.18	5.25	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	----	310	<3.0	<3.0	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	----	4.9	<1.0	<1.0	----
Turbidity	----	E121/VA	0.10	NTU	----	3.67	<0.10	<0.10	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	2.10	0.0062	<0.0050	<0.0050	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	----	<0.050	<0.050	<0.050	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	----	0.84	<0.50	<0.50	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	----	0.045	<0.020	<0.020	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	----	3.02	<0.0050	<0.0050	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	----	3.02	<0.0051	<0.0051	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	----	0.0014	<0.0010	<0.0010	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	----	8.30	<0.50	<0.50	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	----	12.7	<0.30	<0.30	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	28.4	4.51	<0.50	0.59 RRV	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	229	3.82	<0.50	<0.50	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	----	5.46	<0.10	<0.10	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2114-240919	MW2115-240919	FB-MW2115-240919	EB-240919	----
				Client sampling date / time	19-Sep-2024 11:32	19-Sep-2024 13:58	19-Sep-2024 13:58	19-Sep-2024 18:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401552-001	YL2401552-002	YL2401552-003	YL2401552-004	--------
					Result	Result	Result	Result	----
Ion Balance									
Cation sum	----	EC101/VA	0.10	meq/L	----	5.18	<0.10	<0.10	----
Ion balance (APHA)	----	EC101/VA	0.01	%	----	-2.63	0.0	0.0	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	----	0.164	<0.0030	0.0039 RRV	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	----	0.00495	<0.00010	<0.00010	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	----	0.0241	<0.00010	0.00013 RRV	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	----	0.0100	<0.00010	<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	<0.000050	<0.000050	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	----	0.021	<0.010	<0.010	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	----	0.0000311	<0.0000050	<0.0000050	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	----	64.7	<0.050	<0.050	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	----	0.000022	<0.000010	<0.000010	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	----	0.00055	<0.00010	<0.00010	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	----	0.00055	<0.00050	<0.00050	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	----	0.00026	<0.00010	<0.00010	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	----	0.0255	<0.00050	<0.00050	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	----	0.311	<0.010	<0.010	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	----	0.000122	<0.000050	<0.000050	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	----	0.0051	<0.0010	<0.0010	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	----	23.9	<0.0050	<0.0050	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	----	0.0161	<0.00010	<0.00010	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	0.00297	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	----	0.000334	<0.000050	<0.000050	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	----	0.00152	<0.00050	<0.00050	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	----	0.054	<0.050	<0.050	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	----	0.976	<0.050	<0.050	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	----	0.00078	<0.00020	<0.00020	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	----	0.000382	<0.000050	<0.000050	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	----	4.68	<0.10	<0.10	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2114-240919	MW2115-240919	FB-MW2115-240919	EB-240919	----
				Client sampling date / time	19-Sep-2024 11:32	19-Sep-2024 13:58	19-Sep-2024 13:58	19-Sep-2024 18:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401552-001	YL2401552-002	YL2401552-003	YL2401552-004	--------
					Result	Result	Result	Result	----
Total Metals									
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	----	0.000014	<0.000010	<0.000010	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	----	1.46	<0.050	<0.050	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	----	0.0718	<0.00020	<0.00020	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	----	4.66	<0.50	<0.50	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	----	<0.00020	<0.00020	<0.00020	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	----	0.000014	<0.000010	<0.000010	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	----	<0.00010	<0.00010	<0.00010	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	----	0.00018	<0.00010	<0.00010	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	----	0.0120	<0.00030	<0.00030	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	----	<0.00010	<0.00010	<0.00010	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	----	0.00149	<0.000010	<0.000010	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	----	0.00111	<0.00050	<0.00050	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	----	0.0042	<0.0030	<0.0030	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	----	<0.00020	<0.00020	<0.00020	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0568	0.0055	<0.0010	<0.0010	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.0146	0.00465	<0.00010	<0.00010	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.463	0.0231	<0.00010	0.00014 RRV	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0222	0.00782	<0.00010	<0.00010	----
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	<0.000050	<0.000050	<0.000050	<0.000050	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.015	0.020	<0.010	<0.010	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000316	0.0000267	<0.0000050	<0.0000050	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	47.1	63.2	<0.050	<0.050	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000016	<0.000010	<0.000010	<0.000010	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00052	<0.00010	<0.00010	<0.00010	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	0.00052	<0.00050	<0.00050	<0.00050	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00082	<0.00010	<0.00010	<0.00010	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00195	0.0191	<0.00020	<0.00020	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	2.24	0.010	<0.010	<0.010	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	MW2114-240919	MW2115-240919	FB-MW2115-240919	EB-240919	----
				Client sampling date / time	19-Sep-2024 11:32	19-Sep-2024 13:58	19-Sep-2024 13:58	19-Sep-2024 18:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401552-001	YL2401552-002	YL2401552-003	YL2401552-004	--------
					Result	Result	Result	Result	----
Dissolved Metals									
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	0.000462	<0.000050	<0.000050	<0.000050	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0037	0.0050	<0.0010	<0.0010	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	7.13	23.6	<0.0050	<0.0050	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.197	0.00668	<0.00010	0.00012 RRV	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	0.0000074	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.00392	0.000308	<0.000050	<0.000050	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00450	0.00118	<0.00050	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	6.57	0.930	<0.050	<0.050	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00296	0.00072	<0.00020	<0.00020	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000318	0.000382	<0.000050	<0.000050	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	6.99	3.84	<0.050	<0.050	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	16.9	1.45	<0.050	<0.050	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.105	0.0672	<0.00020	<0.00020	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	4.28	4.19	<0.50	<0.50	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	0.000010	<0.000010	<0.000010	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	0.00024	<0.00010	<0.00010	<0.00010	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	0.00011	<0.00010	<0.00010	<0.00010	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	0.00193	<0.00030	<0.00030	<0.00030	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00019	<0.00010	<0.00010	<0.00010	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00395	0.00136	<0.000010	<0.000010	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	0.00445	0.00054	<0.00050	<0.00050	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0032	0.0031	<0.0010	<0.0010	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	0.00279	<0.00020	<0.00020	<0.00020	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401552**	Page	: 1 of 18
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-Sep-2024 09:02
PO	: YEL218	Issue Date	: 28-Sep-2024 18:09
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) EB-240919	E298	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	24-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) FB-MW2115-240919	E298	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW2114-240919	E298	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW2115-240919	E298	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE EB-240919	E235.Br-L	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE FB-MW2115-240919	E235.Br-L	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW2115-240919	E235.Br-L	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-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
Anions and Nutrients : Chloride in Water by IC										
HDPE EB-240919	E235.Cl	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE FB-MW2115-240919	E235.Cl	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW2115-240919	E235.Cl	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE EB-240919	E235.F	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE FB-MW2115-240919	E235.F	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW2115-240919	E235.F	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE EB-240919	E235.NO3-L	19-Sep-2024	24-Sep-2024	3 days	5 days	✗ EHT	24-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE FB-MW2115-240919	E235.NO3-L	19-Sep-2024	24-Sep-2024	3 days	5 days	✗ EHT	24-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW2115-240919	E235.NO3-L	19-Sep-2024	24-Sep-2024	3 days	5 days	✗ EHT	24-Sep-2024	3 days	5 days	✗ EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: 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										
EB-240919	E235.NO2-L	19-Sep-2024	24-Sep-2024	3 days	5 days	✗ EHT	24-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
FB-MW2115-240919	E235.NO2-L	19-Sep-2024	24-Sep-2024	3 days	5 days	✗ EHT	24-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
MW2115-240919	E235.NO2-L	19-Sep-2024	24-Sep-2024	3 days	5 days	✗ EHT	24-Sep-2024	3 days	5 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
EB-240919	E392	19-Sep-2024	----	----	----		25-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
FB-MW2115-240919	E392	19-Sep-2024	----	----	----		25-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
MW2115-240919	E392	19-Sep-2024	----	----	----		25-Sep-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
EB-240919	E235.SO4	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
FB-MW2115-240919	E235.SO4	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
MW2115-240919	E235.SO4	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) EB-240919	E421.Cr-L	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) FB-MW2115-240919	E421.Cr-L	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW2114-240919	E421.Cr-L	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) MW2115-240919	E421.Cr-L	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) EB-240919	E509	19-Sep-2024	26-Sep-2024	28 days	7 days	✓	26-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) FB-MW2115-240919	E509	19-Sep-2024	26-Sep-2024	28 days	7 days	✓	26-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW2114-240919	E509	19-Sep-2024	26-Sep-2024	28 days	7 days	✓	26-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW2115-240919	E509	19-Sep-2024	26-Sep-2024	28 days	7 days	✓	26-Sep-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) EB-240919	E421	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	27-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) FB-MW2115-240919	E421	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	27-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW2114-240919	E421	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	27-Sep-2024	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) MW2115-240919	E421	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	27-Sep-2024	180 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) EB-240919	E358-L	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	23-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) FB-MW2115-240919	E358-L	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	23-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW2114-240919	E358-L	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	23-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) MW2115-240919	E358-L	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	23-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) EB-240919	E355-L	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	23-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) FB-MW2115-240919	E355-L	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	23-Sep-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) MW2114-240919	E355-L	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	23-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW2115-240919	E355-L	19-Sep-2024	23-Sep-2024	28 days	4 days	✓	23-Sep-2024	28 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE EB-240919	E290	19-Sep-2024	24-Sep-2024	14 days	5 days	✓	24-Sep-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE FB-MW2115-240919	E290	19-Sep-2024	24-Sep-2024	14 days	5 days	✓	24-Sep-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW2115-240919	E290	19-Sep-2024	24-Sep-2024	14 days	5 days	✓	24-Sep-2024	14 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE EB-240919	E100	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE FB-MW2115-240919	E100	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE MW2115-240919	E100	19-Sep-2024	24-Sep-2024	28 days	5 days	✓	24-Sep-2024	28 days	5 days	✓
Physical Tests : pH by Meter										
HDPE EB-240919	E108	19-Sep-2024	24-Sep-2024	0.25 hrs	115 hrs	✗ EHTR-FM	24-Sep-2024	0.25 hrs	116 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 FB-MW2115-240919	E108	19-Sep-2024	24-Sep-2024	0.25 hrs	120 hrs	✗ EHTR-FM	24-Sep-2024	0.25 hrs	120 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW2115-240919	E108	19-Sep-2024	24-Sep-2024	0.25 hrs	120 hrs	✗ EHTR-FM	24-Sep-2024	0.25 hrs	120 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE EB-240919	E162-L	19-Sep-2024	----	----	----		26-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE FB-MW2115-240919	E162-L	19-Sep-2024	----	----	----		26-Sep-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE MW2115-240919	E162-L	19-Sep-2024	----	----	----		26-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] EB-240919	E160-L	19-Sep-2024	----	----	----		26-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] FB-MW2115-240919	E160-L	19-Sep-2024	----	----	----		26-Sep-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] MW2115-240919	E160-L	19-Sep-2024	----	----	----		26-Sep-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE EB-240919	E121	19-Sep-2024	----	----	----		26-Sep-2024	3 days	7 days	✗ EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: 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 FB-MW2115-240919	E121	19-Sep-2024	----	----	----		26-Sep-2024	3 days	7 days	✗ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW2115-240919	E121	19-Sep-2024	----	----	----		26-Sep-2024	3 days	7 days	✗ EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) EB-240919	E420.Cr-L	19-Sep-2024	26-Sep-2024	180 days	6 days	✓	26-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) FB-MW2115-240919	E420.Cr-L	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) MW2115-240919	E420.Cr-L	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	26-Sep-2024	180 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) EB-240919	E508	19-Sep-2024	26-Sep-2024	28 days	7 days	✓	26-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) FB-MW2115-240919	E508	19-Sep-2024	26-Sep-2024	28 days	7 days	✓	26-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW2114-240919	E508	19-Sep-2024	26-Sep-2024	28 days	7 days	✓	26-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) MW2115-240919	E508	19-Sep-2024	26-Sep-2024	28 days	7 days	✓	26-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
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
EB-240919	E420	19-Sep-2024	26-Sep-2024	180 days	6 days	✓	27-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
FB-MW2115-240919	E420	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	27-Sep-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
MW2115-240919	E420	19-Sep-2024	26-Sep-2024	180 days	7 days	✓	27-Sep-2024	180 days	8 days	✓

Legend & Qualifier Definitions

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

EHT: Exceeded ALS recommended hold time prior to analysis.

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1669499	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1668073	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1669505	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1669503	1	15	6.6	5.0	✓
Conductivity in Water	E100	1669500	1	17	5.8	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1668048	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1674626	2	32	6.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1668046	2	14	14.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668075	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1669502	1	15	6.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1669506	1	12	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1669507	1	20	5.0	5.0	✓
pH by Meter	E108	1669498	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673126	2	28	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1669509	1	15	6.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1673781	1	4	25.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1667973	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1675640	2	25	8.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1667971	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668068	1	17	5.8	5.0	✓
Turbidity by Nephelometry	E121	1676455	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1669499	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1668073	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1669505	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1669503	1	15	6.6	5.0	✓
Conductivity in Water	E100	1669500	1	17	5.8	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1668048	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1674626	2	32	6.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1668046	1	14	7.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668075	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1669502	1	15	6.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1669506	1	12	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1669507	1	20	5.0	5.0	✓
pH by Meter	E108	1669498	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673126	2	28	7.1	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*
Laboratory Control Samples (LCS) - Continued							
Sulfate in Water by IC	E235.SO4	1669509	1	15	6.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1673781	1	4	25.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1667973	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1675640	2	25	8.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1667971	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668068	1	17	5.8	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1673787	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1676455	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1669499	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1668073	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1669505	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1669503	1	15	6.6	5.0	✓
Conductivity in Water	E100	1669500	1	17	5.8	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1668048	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1674626	2	32	6.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1668046	2	14	14.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668075	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1669502	1	15	6.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1669506	1	12	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1669507	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673126	2	28	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1669509	1	15	6.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1673781	1	4	25.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1667973	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1675640	2	25	8.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1667971	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668068	1	17	5.8	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1673787	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1676455	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1668073	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1669505	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1669503	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1668048	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1674626	2	32	6.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1668046	1	14	7.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1668075	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1669502	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*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1669506	1	12	8.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1669507	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673126	2	28	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1669509	1	15	6.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1667973	1	3	33.3	5.0	✓
Total Mercury in Water by CVAAS	E508	1675640	2	25	8.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1667971	2	20	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1668068	1	17	5.8	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
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.
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).

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

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.

ALS Canada Ltd.

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QUALITY CONTROL REPORT

Work Order	: **YL2401552**	Page	: 1 of 18
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-Sep-2024 09:02
PO	: YEL218	Date Analysis Commenced	: 23-Sep-2024
C-O-C number	: ----	Issue Date	: 28-Sep-2024 18:09
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*
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Lindsay Gung	Supervisor - Water Chemistry	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: 1669498)											
VA24C4775-001	Anonymous	pH	----	E108	0.10	pH units	4.69	4.67	0.02	Diff <2x LOR	----
Physical Tests (QC Lot: 1669499)											
VA24C4775-001	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: 1669500)											
VA24C4775-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	269	268	0.372%	10%	----
Physical Tests (QC Lot: 1673781)											
YL2401537-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	937	946	0.903%	20%	----
Physical Tests (QC Lot: 1676455)											
VA24C5151-001	Anonymous	Turbidity	----	E121	0.10	NTU	34.6	35.4	2.00%	15%	----
Anions and Nutrients (QC Lot: 1668073)											
VA24C4339-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0650	0.0663	1.97%	20%	----
Anions and Nutrients (QC Lot: 1669502)											
VA24C4775-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.264	0.257	2.84%	20%	----
Anions and Nutrients (QC Lot: 1669503)											
VA24C4775-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1669505)											
VA24C4775-001	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: 1669506)											
VA24C4775-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0458	0.0452	0.0006	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1669507)											
VA24C4775-001	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: 1669509)											
VA24C4775-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	117	117	0.111%	20%	----
Anions and Nutrients (QC Lot: 1673126)											
VA24C4765-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	3.39	3.38	0.005	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: 1673127)											
YL2401552-004	EB-240919	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1668068)											
VA24C4866-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1668075)											
VA24C4777-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	0.77	0.83	0.06	Diff <2x LOR	----
Total Metals (QC Lot: 1667971)											
YL2401552-002	MW2115-240919	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.164	0.162	1.34%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00495	0.00501	1.35%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.0241	0.0243	1.14%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0100	0.0100	0.115%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.021	0.021	0.0005	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000311	0.0000282	0.0000028	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	64.7	64.6	0.0805%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000022	0.000018	0.000003	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00055	<0.00050	0.00005	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00026	0.00025	0.00002	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.0255	0.0255	0.0954%	20%	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.311	0.299	3.68%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000122	0.000122	0.0000008	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0051	0.0052	0.0001	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	23.9	24.0	0.671%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0161	0.0149	8.00%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000334	0.000338	0.000003	Diff <2x LOR	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00152	0.00152	0.000008	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.054	<0.050	0.004	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	0.976	0.976	0.0267%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00078	0.00090	0.00012	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000382	0.000414	0.000033	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	4.68	4.74	1.25%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000014	0.000014	0.00000008	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	1.46	1.45	0.380%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.0718	0.0709	1.38%	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: 1667971) - continued											
YL2401552-002	MW2115-240919	Sulfur, total	7704-34-9	E420	0.50	mg/L	4.66	4.98	0.32	Diff <2x LOR	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000014	0.000013	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	0.00018	0.00017	0.000006	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.0120	0.0119	1.24%	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	0.00149	0.00147	1.15%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00111	0.00107	0.00004	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0042	0.0041	0.0001	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: 1667973)											
YL2401552-002	MW2115-240919	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00055	0.00050	0.00005	Diff <2x LOR	----
Total Metals (QC Lot: 1675640)											
VA24C4726-004	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1675641)											
YL2401552-003	FB-MW2115-240919	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1668046)											
VA24C4464-001	Anonymous	Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00023	0.00027	0.00004	Diff <2x LOR	----
VA24C4464-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0017	0.0018	0.0001	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00019	0.00019	0.000001	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00050	0.00048	0.00002	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0201	0.0207	2.92%	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	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000203	0.0000209	0.0000006	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	7.19	7.66	6.28%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000162	0.000168	3.33%	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	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.017	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	----

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: 1668046) - continued											
VA24C4464-001	Anonymous	Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	0.271	0.271	0.0153%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000061	0.000062	0.000002	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	0.072	0.078	0.006	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	0.866	0.831	4.21%	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	0.274	0.274	0.0002	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.0489	0.0503	2.79%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	2.98	3.00	0.02	Diff <2x LOR	----
		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	<0.000010	<0.000010	0	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	0.0044	0.0044	0.000003	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: 1668048)											
VA24C4464-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1674626)											
VA24C4469-014	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1674628)											
YL2401552-004	EB-240919	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1669499)						
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: 1669500)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1673781)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1673787)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1676455)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1668073)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1669502)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1669503)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1669505)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1669506)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1669507)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1669509)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1673126)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1673127)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1668068)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1668068) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1668075)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1667971)						
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: 1667971) - 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: 1667973)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1675640)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1675641)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1668046)						
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	MBRR
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1668046) - continued						
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: 1668048)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1674626)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1674628)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Qualifiers

Qualifier	Description
MBRR	*Initial MB for this submission had positive results for flagged analyte (data not shown). Low level samples were repeated with new QC (2nd MB results shown). High level results (>5x initial MB level) and non-detect results were reported and are defensible*

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1669498)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1669499)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	116	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1669500)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	101	90.0	110	----
Physical Tests (QCLot: 1673781)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1673787)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	86.1	85.0	115	----
Physical Tests (QCLot: 1676455)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Anions and Nutrients (QCLot: 1668073)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	97.4	85.0	115	----
Anions and Nutrients (QCLot: 1669502)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 1669503)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1669505)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	99.8	85.0	115	----
Anions and Nutrients (QCLot: 1669506)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.8	90.0	110	----
Anions and Nutrients (QCLot: 1669507)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 1669509)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1673126)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1673127)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	103	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: 1668068)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	101	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1668075)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	101	80.0	120	----
Total Metals (QCLot: 1667971)									
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	104	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	97.5	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	106	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	93.6	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	98.4	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	96.3	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	99.8	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	100.0	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	94.6	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	102	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	97.2	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	98.5	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	96.3	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	110	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	102	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	97.6	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	111	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.0	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	101	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	99.0	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	96.1	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: 1667971) - continued									
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	103	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.2	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.5	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.8	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	104	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	99.4	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	104	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Total Metals (QCLot: 1667973)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Total Metals (QCLot: 1675640)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	95.3	80.0	120	----
Total Metals (QCLot: 1675641)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	94.5	80.0	120	----
Dissolved Metals (QCLot: 1668046)									
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	106	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	94.9	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	97.9	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	96.2	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	98.5	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	96.4	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	96.7	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	99.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	97.5	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	92.6	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	102	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	96.1	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	96.6	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	99.1	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	97.4	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	99.2	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1668046) - continued									
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	92.6	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	98.3	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	95.3	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	98.5	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	94.3	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	103	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	104	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	97.0	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	102	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	99.0	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	95.9	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	98.0	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	97.1	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	102	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Dissolved Metals (QCLot: 1668048)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	96.7	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	109	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	100	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1668073)										
VA24C4339-002	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: 1669502)										
VA24C4775-002	Anonymous	Fluoride	16984-48-8	E235.F	0.909 mg/L	1 mg/L	90.9	75.0	125	----
Anions and Nutrients (QCLot: 1669503)										
VA24C4775-002	Anonymous	Chloride	16887-00-6	E235.Cl	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1669505)										
VA24C4775-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.490 mg/L	0.5 mg/L	98.0	75.0	125	----
Anions and Nutrients (QCLot: 1669506)										
VA24C4775-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.55 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1669507)										
VA24C4775-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.502 mg/L	0.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1669509)										
VA24C4775-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1673126)										
VA24C4765-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.6 mg/L	10 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 1673127)										
YL2401566-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.1 mg/L	10 mg/L	101	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1668068)										
VA24C4873-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1668075)										
VA24C4866-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.99 mg/L	5 mg/L	99.8	70.0	130	----
Total Metals (QCLot: 1667971)										
YL2401552-003	FB-MW2115-240919	Manganese, total	7439-96-5	E420	0.0191 mg/L	0.02 mg/L	95.7	70.0	130	----
		Sodium, total	7440-23-5	E420	2.06 mg/L	2 mg/L	103	70.0	130	----
YL2401552-003	FB-MW2115-240919	Aluminum, total	7429-90-5	E420	0.204 mg/L	0.2 mg/L	102	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Barium, total	7440-39-3	E420	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0392 mg/L	0.04 mg/L	97.9	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0103 mg/L	0.01 mg/L	103	70.0	130	----
		Boron, total	7440-42-8	E420	0.094 mg/L	0.1 mg/L	94.5	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00407 mg/L	0.004 mg/L	102	70.0	130	----
		Calcium, total	7440-70-2	E420	3.83 mg/L	4 mg/L	95.9	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: 1667971) - continued										
YL2401552-003	FB-MW2115-240919	Cesium, total	7440-46-2	E420	0.0101 mg/L	0.01 mg/L	101	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0399 mg/L	0.04 mg/L	99.8	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0203 mg/L	0.02 mg/L	102	70.0	130	----
		Copper, total	7440-50-8	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Iron, total	7439-89-6	E420	1.98 mg/L	2 mg/L	99.3	70.0	130	----
		Lead, total	7439-92-1	E420	0.0194 mg/L	0.02 mg/L	97.1	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0983 mg/L	0.1 mg/L	98.3	70.0	130	----
		Magnesium, total	7439-95-4	E420	0.983 mg/L	1 mg/L	98.3	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	0.0412 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	3.91 mg/L	4 mg/L	97.7	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0187 mg/L	0.02 mg/L	93.5	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0395 mg/L	0.04 mg/L	98.7	70.0	130	----
		Silicon, total	7440-21-3	E420	10.0 mg/L	10 mg/L	100	70.0	130	----
		Silver, total	7440-22-4	E420	0.00402 mg/L	0.004 mg/L	100	70.0	130	----
		Strontium, total	7440-24-6	E420	0.0203 mg/L	0.02 mg/L	102	70.0	130	----
		Sulfur, total	7704-34-9	E420	19.4 mg/L	20 mg/L	97.2	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0393 mg/L	0.04 mg/L	98.2	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00375 mg/L	0.004 mg/L	93.8	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	0.0192 mg/L	0.02 mg/L	96.2	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0186 mg/L	0.02 mg/L	92.9	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00391 mg/L	0.004 mg/L	97.8	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0989 mg/L	0.1 mg/L	98.9	70.0	130	----
		Zinc, total	7440-66-6	E420	0.414 mg/L	0.4 mg/L	104	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0416 mg/L	0.04 mg/L	104	70.0	130	----
Total Metals (QCLot: 1667973)										
YL2401552-003	FB-MW2115-240919	Chromium, total	7440-47-3	E420.Cr-L	0.0399 mg/L	0.04 mg/L	99.8	70.0	130	----
Total Metals (QCLot: 1675640)										
VA24C4726-005	Anonymous	Mercury, total	7439-97-6	E508	0.0000957 mg/L	0 mg/L	95.7	70.0	130	----
Total Metals (QCLot: 1675641)										
YL2401552-004	EB-240919	Mercury, total	7439-97-6	E508	0.0000934 mg/L	0 mg/L	93.4	70.0	130	----
Dissolved Metals (QCLot: 1668046)										
VA24C4464-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.191 mg/L	0.2 mg/L	95.6	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0195 mg/L	0.02 mg/L	97.5	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.0186 mg/L	0.02 mg/L	92.9	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0370 mg/L	0.04 mg/L	92.6	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00990 mg/L	0.01 mg/L	99.0	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.088 mg/L	0.1 mg/L	87.6	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: 1668046) - continued										
VA24C4464-002	Anonymous	Cadmium, dissolved	7440-43-9	E421	0.00397 mg/L	0.004 mg/L	99.3	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00985 mg/L	0.01 mg/L	98.5	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0378 mg/L	0.04 mg/L	94.6	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0195 mg/L	0.02 mg/L	97.4	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.88 mg/L	2 mg/L	94.1	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0190 mg/L	0.02 mg/L	95.3	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0918 mg/L	0.1 mg/L	91.8	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	0.923 mg/L	1 mg/L	92.3	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0190 mg/L	0.02 mg/L	95.0	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	0.0392 mg/L	0.04 mg/L	98.0	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.37 mg/L	10 mg/L	93.7	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.80 mg/L	4 mg/L	95.1	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0184 mg/L	0.02 mg/L	91.8	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0384 mg/L	0.04 mg/L	96.1	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.67 mg/L	10 mg/L	96.7	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00392 mg/L	0.004 mg/L	98.1	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	1.92 mg/L	2 mg/L	96.2	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	18.6 mg/L	20 mg/L	93.3	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00372 mg/L	0.004 mg/L	93.0	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0207 mg/L	0.02 mg/L	104	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0190 mg/L	0.02 mg/L	94.8	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0373 mg/L	0.04 mg/L	93.4	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0189 mg/L	0.02 mg/L	94.4	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00390 mg/L	0.004 mg/L	97.6	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0934 mg/L	0.1 mg/L	93.4	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	0.0406 mg/L	0.04 mg/L	102	70.0	130	----
Dissolved Metals (QCLot: 1668048)										
VA24C4464-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0378 mg/L	0.04 mg/L	94.6	70.0	130	----
Dissolved Metals (QCLot: 1674626)										
VA24C4469-015	Anonymous	Mercury, dissolved	7439-97-6	E509	0.000102 mg/L	0 mg/L	102	70.0	130	----
Dissolved Metals (QCLot: 1674628)										
YL2401553-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.000100 mg/L	0 mg/L	100	70.0	130	----

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-cimac.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

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**	**Total Ammonia**	**Dissolved Metals**	**Total Hg**							
MW2114-240919	MW21-14	19-Sep-24	11:32	Water			G	5		X								X	X							
MW2115-240919	MW21-15	19-Sep-24	13:58	Water			G	8	X	X	X															
FB-MW2115-240919	MW21-15	19-Sep-24	13:58	Water			G	8	X	X	X															
EB-240919	Equipment Blank	19-Sep-24	18:00	Water			G	8	X	X	X															

Relinquished by (Sampler Signature): Keenan Kakfwi	T.Kakfwi	**Date/Time:** 2024-September-20 9:02		**Company: SLR Consulting**
Received by (Name): Simon Arlooktoo	**Received by (Signature)**	**Company: ALS** SEPT 20/24	**Sample Receipt Temperature (deg. C):** 3.2	**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
YL2401552

Telephone : +1 867 873 5593

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401570**		
Amendment	: **1**		
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	: 23-Sep-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 25-Sep-2024
C-O-C number	: ----	Issue Date	: 18-Oct-2024 08:10
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
- 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
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, 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
Raymond Lin	Analyst	Metals, Burnaby, British Columbia
Tony Nguyen	Analyst	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µS/cm	microsiemens per centimetre
-	no units
meq/L	milliequivalents per litre
%	percent
µg/L	micrograms per litre

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	*Client Id*	*Comment*
YL2401570-004	SNP435-240921	**Sample(s) SNP435-240921(TPH containers received): Analysis Requirements Absent or Unclear. Samples will be placed on hold; contact ALS to clarify testing request.**

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).
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
RRV	Reported result verified by repeat analysis.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SNP435-240921	SNP4323-240921
				Client sampling date / time	21-Sep-2024 14:50	21-Sep-2024 16:04	21-Sep-2024 17:02	21-Sep-2024 19:56	21-Sep-2024 20:04
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-001	YL2401570-002	YL2401570-003	YL2401570-004	YL2401570-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	245	289	293	46.0	46.2
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	18.8	3.2	<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	9.4	1.6	<1.0	<1.0	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	264	292	293	46.0	46.2
Conductivity	----	E100/VA	1.0	µS/cm	933	1070	1480	3380	3370
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	211	544	853	1520	1510
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	204	531	880	1580	1510
pH	----	E108/VA	0.10	pH units	8.55	8.30	8.21	7.83	7.83
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	612	737	1140	2480	2600
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	<1.0	<1.0	2.9	1.6
Turbidity	----	E121/VA	0.10	NTU	0.59	1.19	0.36	2.81	2.48
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.542	0.551	0.403	0.0116	0.0135
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	0.395	0.369	0.277	6.56	6.60
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	36.8	33.3	27.2	507	509
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.125	0.106	<0.100 DLDS	<0.400 DLDS	<0.400 DLDS
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.581	11.8	0.142	0.162	0.163
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	0.581	11.8	0.150	0.162	0.163
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0050 DLDS	<0.0050 DLDS	0.0080	<0.0200 DLDS	<0.0200 DLDS
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	----	----	----	0.0217	0.0168

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SNP435-240921	SNP4323-240921
				Client sampling date / time	21-Sep-2024 14:50	21-Sep-2024 16:04	21-Sep-2024 17:02	21-Sep-2024 19:56	21-Sep-2024 20:04
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-001	YL2401570-002	YL2401570-003	YL2401570-004	YL2401570-005
					Result	Result	Result	Result	Result
Anions and Nutrients									
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	10.9	11.0	14.3	0.80	0.75
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	188	236	576	1190	1190
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	6.40 RRV	8.14	6.11	6.84	7.29
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	4.85 RRV	6.85 RRV	5.41	6.97	6.78
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	10.3	12.5	18.6	40.1	40.2
Cation sum	----	EC101/VA	0.10	meq/L	10.5	12.7	18.5	39.6	39.4
Ion balance (APHA)	----	EC101/VA	0.01	%	0.96	0.79	-0.27	-0.63	-1.00
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0048	0.0046	0.0040	0.0842	0.0745
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00063	0.00082	0.0244	0.154	0.153
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.0182	0.0435	0.0339	0.227	0.228
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0210	0.0634	0.0340	0.0425	0.0399
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000100	<0.000100
Boron, total	7440-42-8	E420/VA	0.010	mg/L	1.02	0.364	0.170	0.374	0.360
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	<0.0000050	0.0000344	0.0000587	0.0000520
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	42.4	126	204	451	431
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000093	0.000069	0.000067	0.000190	0.000193
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	0.00064	0.00096	<0.00100	<0.00100

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SNP435-240921	SNP4323-240921
				Client sampling date / time	21-Sep-2024 14:50	21-Sep-2024 16:04	21-Sep-2024 17:02	21-Sep-2024 19:56	21-Sep-2024 20:04
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-001	YL2401570-002	YL2401570-003	YL2401570-004	YL2401570-005
					Result	Result	Result	Result	Result
Total Metals									
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00014	0.00064	0.00096	0.00024	0.00027
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00033	0.00035	0.0641	0.00419	0.00425
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	0.00424	0.00539	0.00536	0.00523
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.039	0.133	0.060	0.220	0.199
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000050	0.000053	0.000537	0.000448
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0418	0.0359	0.0486	0.0359	0.0352
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	23.8	52.6	90.1	109	105
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0238	0.0956	0.846	0.0639	0.0642
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	0.000364	0.000366	0.00335	0.0138	0.0137
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00060	0.00198	0.115	0.00954	0.00949
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.100	<0.100
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	2.19	4.37	7.86	13.8	13.6
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00160	0.00245	0.00283	0.0120	0.0117
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000050	0.000086	0.000347	0.000226	0.000258
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	5.84	6.13	7.03	0.64	0.55
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	0.000024	0.000026
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	146	38.9	31.2	222	218
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.768	1.47	1.10	4.10	4.07
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	76.5	96.5	204	481	471
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	0.00030	<0.00020	0.00044	0.00049

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SNP435-240921	SNP4323-240921
				Client sampling date / time	21-Sep-2024 14:50	21-Sep-2024 16:04	21-Sep-2024 17:02	21-Sep-2024 19:56	21-Sep-2024 20:04
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-001	YL2401570-002	YL2401570-003	YL2401570-004	YL2401570-005
					Result	Result	Result	Result	Result
Total Metals									
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000020	<0.000020
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00020	<0.00020
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00020	<0.00020
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00420 DLM	<0.00330 DLM
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00077	0.00063	0.00317	<0.00020	<0.00020
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000059	0.00274	0.00285	0.00225	0.00226
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	0.00060	<0.00050	<0.00100	<0.00100
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0060	0.0244	0.0221	0.0115	0.0116
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00070 DLM	0.00022	<0.00040	<0.00040
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0042	0.0022	0.0017	0.0032	0.0039
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00056	0.00057	0.0148	0.160	0.166
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.0200	0.0207	0.0616 DTC	0.178	0.188
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0221	0.0651	0.0304	0.0411	0.0389
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100 DLA	<0.000100 DLA
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000100 DLA	<0.000100 DLA
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.840	0.283	0.164	0.303	0.300
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	<0.0000050	0.0000113	0.0000503	0.0000508
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	41.4	122	206	425	423
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000096	0.000068	0.000067	0.000175	0.000187
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00100 DLA	<0.00100 DLA

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SNP435-240921	SNP4323-240921
				Client sampling date / time	21-Sep-2024 14:50	21-Sep-2024 16:04	21-Sep-2024 17:02	21-Sep-2024 19:56	21-Sep-2024 20:04
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-001	YL2401570-002	YL2401570-003	YL2401570-004	YL2401570-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00011	0.00042	0.00044	<0.00020 DLA	<0.00020 DLA
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00035	0.00031	0.0492	0.00376	0.00393
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00025	0.00023	0.00448	0.00407	0.00414
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.035	0.105	0.103 DTC	0.039	0.041
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	0.000113	0.000102
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0415	0.0350	0.0483	0.0321	0.0315
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	26.1	58.2	82.2	112	111
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.0250	0.0965	0.718	0.0602	0.0616
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	0.000376	0.000330	0.00357	0.0133	0.0137
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00140	0.00104	0.0969	0.00867	0.00874
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.100 DLA	<0.100 DLA
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	2.22	4.40	7.12	14.1	14.4
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00179	0.00245	0.00274	0.0117	0.0118
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000082	0.000065	0.000090	0.000268	0.000232
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	5.23	5.56	6.75	0.339	0.312
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000020 DLA	<0.000020 DLA
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	142	38.0	29.1	203	201
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.813	1.57	1.07	4.34	4.50
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	66.3	87.0	195	438	433
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00040 DLA	<0.00040 DLA

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

			Client sample ID		SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SNP435-240921	SNP4323-240921
			Client sampling date / time		21-Sep-2024 14:50	21-Sep-2024 16:04	21-Sep-2024 17:02	21-Sep-2024 19:56	21-Sep-2024 20:04
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-001	YL2401570-002	YL2401570-003	YL2401570-004	YL2401570-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000020 DLA	<0.000020 DLA
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00010	0.00013	<0.00020 DLA	<0.00020 DLA
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00060 DLA	<0.00060 DLA
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00076	0.00061	0.00300	<0.00020 DLA	<0.00020 DLA
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.000062	0.00274	0.00328	0.00231	0.00238
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00100 DLA	<0.00100 DLA
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0034	0.0087	0.0235	0.0101	0.0099
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	0.00065	0.00023	<0.00040 DLA	<0.00040 DLA
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	----
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	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND001Z4-240921	SDIAND001Z8-240921	SDIAND001Z10-240921	SNP435-240921	SNP4323-240921
				Client sampling date / time	21-Sep-2024 14:50	21-Sep-2024 16:04	21-Sep-2024 17:02	21-Sep-2024 19:56	21-Sep-2024 20:04
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-001	YL2401570-002	YL2401570-003	YL2401570-004	YL2401570-005
					Result	Result	Result	Result	Result
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	%	----	----	----	84.9	----
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	%	----	----	----	72.1	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	----	----	92.5	----

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

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

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240921	----	----	----	----
				Client sampling date / time	21-Sep-2024 20:24	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-006	----	----	----	----
					Result	----	----	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	161	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	6.8	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240921	----	----	----	----
				Client sampling date / time	21-Sep-2024 20:24	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-006	----	----	----	----
					Result	----	----	----	----
Physical Tests									
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L	3.4	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	168	----	----	----	----
Conductivity	----	E100/VA	1.0	µS/cm	893	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	383	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	367	----	----	----	----
pH	----	E108/VA	0.10	pH units	8.40	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	583	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	2.3	----	----	----	----
Turbidity	----	E121/VA	0.10	NTU	3.84	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0309	----	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	0.922	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	94.4	----	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.102	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0250 DLDS	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0255	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0050 DLDS	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0322	----	----	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	4.16	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	164	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240921	----	----	----	----
				Client sampling date / time	21-Sep-2024 20:24	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-006	----	----	----	----
					Result	----	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	24.6	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	24.4	----	----	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	9.45	----	----	----	----
Cation sum	----	EC101/VA	0.10	meq/L	9.70	----	----	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	1.30	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0980	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00469	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.0937	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0455	----	----	----	----
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	0.034	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	82.7	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00021	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00214	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240921	----	----	----	----
				Client sampling date / time	21-Sep-2024 20:24	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-006	----	----	----	----
					Result	----	----	----	----
Total Metals									
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.105	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000055	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0140	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	38.9	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0329	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.000646	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00076	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	0.054	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	5.83	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00296	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000067	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	2.42	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	43.2	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.406	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	64.5	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240921	----	----	----	----
				Client sampling date / time	21-Sep-2024 20:24	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-006	----	----	----	----
					Result	----	----	----	----
Total Metals									
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00360 DLM	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00110	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00072	----	----	----	----
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	0.0064	----	----	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00466	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.0921	----	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0464	----	----	----	----
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	0.030	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	81.7	----	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	----	----	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	----	----	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00204	----	----	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00023	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240921	----	----	----	----
				Client sampling date / time	21-Sep-2024 20:24	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-006	----	----	----	----
					Result	----	----	----	----
Dissolved Metals									
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.023	----	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	----	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0136	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	43.4	----	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.0256	----	----	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.000630	----	----	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00068	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	6.34	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00290	----	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000056	----	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	1.94	----	----	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	43.4	----	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.407	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	60.1	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240921	----	----	----	----
				Client sampling date / time	21-Sep-2024 20:24	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401570-006	----	----	----	----
					Result	----	----	----	----
Dissolved Metals									
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	0.00110	----	----	----	----
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	----	----	----	----

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	: **YL2401570**	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	: 23-Sep-2024 09:01
PO	: YEL218	Issue Date	: 18-Oct-2024 08:10
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 Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Method Blank value outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

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

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Organic / Inorganic Carbon	QC-1671175-001	----	Carbon, total organic [TOC]	----	E355-L	1.58 mg/L B	0.5 mg/L	Blank result exceeds permitted value

Result Qualifiers

Qualifier	*Description*
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4323-240921	E298	21-Sep-2024	25-Sep-2024	28 days	3 days	✓	26-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP435-240921	E298	21-Sep-2024	25-Sep-2024	28 days	3 days	✓	26-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TRCK-240921	E298	21-Sep-2024	25-Sep-2024	28 days	3 days	✓	26-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND001Z10-240921	E298	21-Sep-2024	25-Sep-2024	28 days	4 days	✓	26-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND001Z4-240921	E298	21-Sep-2024	25-Sep-2024	28 days	4 days	✓	26-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND001Z8-240921	E298	21-Sep-2024	25-Sep-2024	28 days	4 days	✓	26-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SDIAND001Z10-240921	E235.Br-L	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-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 SDIAND001Z4-240921	E235.Br-L	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SDIAND001Z8-240921	E235.Br-L	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4323-240921	E235.Br-L	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP435-240921	E235.Br-L	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE TRCK-240921	E235.Br-L	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SDIAND001Z10-240921	E235.Cl	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SDIAND001Z4-240921	E235.Cl	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SDIAND001Z8-240921	E235.Cl	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4323-240921	E235.Cl	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-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 SNP435-240921	E235.Cl	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TRCK-240921	E235.Cl	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND001Z10-240921	E235.F	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND001Z4-240921	E235.F	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND001Z8-240921	E235.F	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4323-240921	E235.F	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP435-240921	E235.F	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TRCK-240921	E235.F	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND001Z10-240921	E235.NO3-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-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 SDIAND001Z4-240921	E235.NO3-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND001Z8-240921	E235.NO3-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP4323-240921	E235.NO3-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SNP435-240921	E235.NO3-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE TRCK-240921	E235.NO3-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SDIAND001Z10-240921	E235.NO2-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SDIAND001Z4-240921	E235.NO2-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SDIAND001Z8-240921	E235.NO2-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SNP4323-240921	E235.NO2-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-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 SNP435-240921	E235.NO2-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE TRCK-240921	E235.NO2-L	21-Sep-2024	24-Sep-2024	3 days	3 days	✓	24-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SDIAND001Z10-240921	E392	21-Sep-2024	----	----	----		25-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SDIAND001Z4-240921	E392	21-Sep-2024	----	----	----		25-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SDIAND001Z8-240921	E392	21-Sep-2024	----	----	----		25-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4323-240921	E392	21-Sep-2024	----	----	----		25-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP435-240921	E392	21-Sep-2024	----	----	----		25-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TRCK-240921	E392	21-Sep-2024	----	----	----		25-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SDIAND001Z10-240921	E235.SO4	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-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 SDIAND001Z4-240921	E235.SO4	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SDIAND001Z8-240921	E235.SO4	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4323-240921	E235.SO4	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP435-240921	E235.SO4	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TRCK-240921	E235.SO4	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	24-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4323-240921	E372-U	21-Sep-2024	29-Sep-2024	28 days	8 days	✓	01-Oct-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP435-240921	E372-U	21-Sep-2024	29-Sep-2024	28 days	8 days	✓	01-Oct-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) TRCK-240921	E372-U	21-Sep-2024	29-Sep-2024	28 days	8 days	✓	01-Oct-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SDIAND001Z10-240921	E421.Cr-L	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	26-Sep-2024	180 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times 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) SDIAND001Z4-240921	E421.Cr-L	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	26-Sep-2024	180 days	5 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SDIAND001Z8-240921	E421.Cr-L	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	26-Sep-2024	180 days	5 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4323-240921	E421.Cr-L	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	26-Sep-2024	180 days	5 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP435-240921	E421.Cr-L	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	26-Sep-2024	180 days	5 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TRCK-240921	E421.Cr-L	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	26-Sep-2024	180 days	5 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND001Z10-240921	E509	21-Sep-2024	02-Oct-2024	28 days	11 days	✓	02-Oct-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND001Z4-240921	E509	21-Sep-2024	02-Oct-2024	28 days	11 days	✓	02-Oct-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND001Z8-240921	E509	21-Sep-2024	02-Oct-2024	28 days	11 days	✓	02-Oct-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4323-240921	E509	21-Sep-2024	02-Oct-2024	28 days	11 days	✓	02-Oct-2024	28 days	11 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP435-240921	E509	21-Sep-2024	02-Oct-2024	28 days	11 days	✓	02-Oct-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) TRCK-240921	E509	21-Sep-2024	02-Oct-2024	28 days	11 days	✓	02-Oct-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND001Z10-240921	E421	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	27-Sep-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND001Z4-240921	E421	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	27-Sep-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND001Z8-240921	E421	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	27-Sep-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4323-240921	E421	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	27-Sep-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP435-240921	E421	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	27-Sep-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TRCK-240921	E421	21-Sep-2024	26-Sep-2024	180 days	5 days	✓	27-Sep-2024	180 days	6 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) SNP435-240921	E601	21-Sep-2024	30-Sep-2024	14 days	9 days	✓	01-Oct-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 : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) SNP435-240921	E581.VH+F1	21-Sep-2024	28-Sep-2024	14 days	7 days	✓	28-Sep-2024	14 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4323-240921	E358-L	21-Sep-2024	25-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP435-240921	E358-L	21-Sep-2024	25-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) TRCK-240921	E358-L	21-Sep-2024	25-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND001Z10-240921	E358-L	21-Sep-2024	25-Sep-2024	28 days	4 days	✓	25-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND001Z4-240921	E358-L	21-Sep-2024	25-Sep-2024	28 days	4 days	✓	25-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND001Z8-240921	E358-L	21-Sep-2024	25-Sep-2024	28 days	4 days	✓	25-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4323-240921	E355-L	21-Sep-2024	25-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP435-240921	E355-L	21-Sep-2024	25-Sep-2024	28 days	3 days	✓	25-Sep-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) TRCK-240921	E355-L	21-Sep-2024	25-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND001Z10-240921	E355-L	21-Sep-2024	25-Sep-2024	28 days	4 days	✓	25-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND001Z4-240921	E355-L	21-Sep-2024	25-Sep-2024	28 days	4 days	✓	25-Sep-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND001Z8-240921	E355-L	21-Sep-2024	25-Sep-2024	28 days	4 days	✓	25-Sep-2024	28 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND001Z10-240921	E290	21-Sep-2024	24-Sep-2024	14 days	3 days	✓	25-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND001Z4-240921	E290	21-Sep-2024	24-Sep-2024	14 days	3 days	✓	25-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND001Z8-240921	E290	21-Sep-2024	24-Sep-2024	14 days	3 days	✓	25-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4323-240921	E290	21-Sep-2024	24-Sep-2024	14 days	3 days	✓	25-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP435-240921	E290	21-Sep-2024	24-Sep-2024	14 days	3 days	✓	25-Sep-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 TRCK-240921	E290	21-Sep-2024	24-Sep-2024	14 days	3 days	✓	25-Sep-2024	14 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND001Z10-240921	E100	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND001Z4-240921	E100	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND001Z8-240921	E100	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4323-240921	E100	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP435-240921	E100	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE TRCK-240921	E100	21-Sep-2024	24-Sep-2024	28 days	3 days	✓	25-Sep-2024	28 days	4 days	✓
Physical Tests : pH by Meter										
HDPE SNP4323-240921	E108	21-Sep-2024	24-Sep-2024	0.25 hrs	71 hrs	✗ EHTR-FM	25-Sep-2024	0.25 hrs	93 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP435-240921	E108	21-Sep-2024	24-Sep-2024	0.25 hrs	71 hrs	✗ EHTR-FM	25-Sep-2024	0.25 hrs	93 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 TRCK-240921	E108	21-Sep-2024	24-Sep-2024	0.25 hrs	71 hrs	✗ EHTR-FM	25-Sep-2024	0.25 hrs	93 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SDIAND001Z10-240921	E108	21-Sep-2024	24-Sep-2024	0.25 hrs	74 hrs	✗ EHTR-FM	25-Sep-2024	0.25 hrs	96 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SDIAND001Z8-240921	E108	21-Sep-2024	24-Sep-2024	0.25 hrs	75 hrs	✗ EHTR-FM	25-Sep-2024	0.25 hrs	97 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SDIAND001Z4-240921	E108	21-Sep-2024	24-Sep-2024	0.25 hrs	76 hrs	✗ EHTR-FM	25-Sep-2024	0.25 hrs	98 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND001Z10-240921	E162-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND001Z4-240921	E162-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND001Z8-240921	E162-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP4323-240921	E162-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SNP435-240921	E162-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓

Matrix: **Water**

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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										
TRCK-240921	E162-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SDIAND001Z10-240921	E160-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SDIAND001Z4-240921	E160-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SDIAND001Z8-240921	E160-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP4323-240921	E160-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP435-240921	E160-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
TRCK-240921	E160-L	21-Sep-2024	----	----	----		27-Sep-2024	7 days	6 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
SDIAND001Z10-240921	E121	21-Sep-2024	----	----	----		28-Sep-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE										
SDIAND001Z4-240921	E121	21-Sep-2024	----	----	----		28-Sep-2024	3 days	6 days	× EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: 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 SDIAND001Z8-240921	E121	21-Sep-2024	----	----	----		28-Sep-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP4323-240921	E121	21-Sep-2024	----	----	----		28-Sep-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP435-240921	E121	21-Sep-2024	----	----	----		28-Sep-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE TRCK-240921	E121	21-Sep-2024	----	----	----		28-Sep-2024	3 days	6 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SDIAND001Z10-240921	E420.Cr-L	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	27-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SDIAND001Z4-240921	E420.Cr-L	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	27-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SDIAND001Z8-240921	E420.Cr-L	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	27-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4323-240921	E420.Cr-L	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	27-Sep-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP435-240921	E420.Cr-L	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	27-Sep-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) TRCK-240921	E420.Cr-L	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	27-Sep-2024	180 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND001Z10-240921	E508	21-Sep-2024	28-Sep-2024	28 days	7 days	✓	28-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND001Z4-240921	E508	21-Sep-2024	28-Sep-2024	28 days	7 days	✓	28-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND001Z8-240921	E508	21-Sep-2024	28-Sep-2024	28 days	7 days	✓	28-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4323-240921	E508	21-Sep-2024	28-Sep-2024	28 days	7 days	✓	28-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP435-240921	E508	21-Sep-2024	28-Sep-2024	28 days	7 days	✓	28-Sep-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) TRCK-240921	E508	21-Sep-2024	28-Sep-2024	28 days	7 days	✓	28-Sep-2024	28 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SDIAND001Z10-240921	E420	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	28-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SDIAND001Z4-240921	E420	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	28-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				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) SDIAND001Z8-240921	E420	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	28-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4323-240921	E420	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	28-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP435-240921	E420	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	28-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TRCK-240921	E420	21-Sep-2024	27-Sep-2024	180 days	6 days	✓	28-Sep-2024	180 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP435-240921	E611A	21-Sep-2024	28-Sep-2024	14 days	7 days	✓	28-Sep-2024	14 days	7 days	✓

Legend & Qualifier Definitions

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

EHT: Exceeded ALS recommended hold time prior to analysis.

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1670781	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1671176	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1670785	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1678992	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1670784	1	20	5.0	5.0	✓
Conductivity in Water	E100	1670782	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1671899	1	15	6.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1685821	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1671898	1	15	6.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1671177	2	35	5.7	5.0	✓
Fluoride in Water by IC	E235.F	1670783	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1670786	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1670787	1	20	5.0	5.0	✓
pH by Meter	E108	1670780	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673369	2	25	8.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1670788	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1678685	1	9	11.1	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1671861	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1679306	1	10	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1671860	1	16	6.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1671175	1	10	10.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1680241	1	3	33.3	5.0	✓
Turbidity by Nephelometry	E121	1678788	2	40	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1678991	1	19	5.2	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1670781	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1671176	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1670785	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1678992	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1680959	1	1	100.0	5.0	✓
Chloride in Water by IC	E235.Cl	1670784	1	20	5.0	5.0	✓
Conductivity in Water	E100	1670782	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1671899	1	15	6.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1685821	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1671898	1	15	6.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1671177	2	35	5.7	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	1670783	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1670786	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1670787	1	20	5.0	5.0	✓
pH by Meter	E108	1670780	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673369	2	25	8.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1670788	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1678685	1	9	11.1	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1671861	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1679306	1	10	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1671860	1	16	6.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1671175	1	10	10.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1680241	1	3	33.3	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1678684	1	9	11.1	5.0	✓
Turbidity by Nephelometry	E121	1678788	2	40	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1678991	1	19	5.2	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1670781	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1671176	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1670785	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1678992	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1680959	1	1	100.0	5.0	✓
Chloride in Water by IC	E235.Cl	1670784	1	20	5.0	5.0	✓
Conductivity in Water	E100	1670782	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1671899	1	15	6.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1685821	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1671898	1	15	6.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1671177	2	35	5.7	5.0	✓
Fluoride in Water by IC	E235.F	1670783	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1670786	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1670787	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673369	2	25	8.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1670788	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1678685	1	9	11.1	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1671861	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1679306	1	10	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1671860	1	16	6.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1671175	1	10	10.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1680241	1	3	33.3	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1678684	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	1678788	2	40	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1678991	1	19	5.2	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1671176	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1670785	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1678992	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1670784	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1671899	1	15	6.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1685821	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1671898	1	15	6.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1671177	2	35	5.7	5.0	✓
Fluoride in Water by IC	E235.F	1670783	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1670786	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1670787	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1673369	2	25	8.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1670788	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1671861	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1679306	1	10	10.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1671860	1	16	6.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1671175	1	10	10.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1680241	1	3	33.3	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1678991	1	19	5.2	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - 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 a GC-MS-FID.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

ALS Canada Ltd.

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QUALITY CONTROL REPORT

Work Order	: **YL2401570**	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
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Project	: 208.030049.00001	Date Samples Received	: 23-Sep-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 24-Sep-2024
C-O-C number	: ----	Issue Date	: 18-Oct-2024 08:10
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:

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
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Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia

General Comments

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

Key :

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1670780)											
VA24C4787-003	Anonymous	pH	----	E108	0.10	pH units	7.76	7.77	0.129%	4%	----
Physical Tests (QC Lot: 1670781)											
VA24C4787-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	31.0	31.0	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	31.0	31.0	0.00%	20%	----
Physical Tests (QC Lot: 1670782)											
VA24C4787-003	Anonymous	Conductivity	----	E100	2.0	µS/cm	63.7	63.2	0.788%	10%	----
Physical Tests (QC Lot: 1678685)											
YL2401570-001	SDIAND001Z4-240921	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	612	633	3.29%	20%	----
Physical Tests (QC Lot: 1678788)											
VA24C5716-005	Anonymous	Turbidity	----	E121	0.10	NTU	2.46	2.71	9.67%	15%	----
Physical Tests (QC Lot: 1678789)											
YL2401570-004	SNP435-240921	Turbidity	----	E121	0.10	NTU	2.81	2.91	3.50%	15%	----
Anions and Nutrients (QC Lot: 1670783)											
VA24C4787-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.036	0.034	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1670784)											
VA24C4787-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1670785)											
VA24C4787-001	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: 1670786)											
VA24C4787-001	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: 1670787)											
VA24C4787-001	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: 1670788)											
VA24C4787-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	2.69	2.60	0.09	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1671176)											
FJ2402862-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0436	0.0461	0.0025	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: 1673369)											
EO2408336-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	6.84	6.91	0.945%	20%	----
Anions and Nutrients (QC Lot: 1673370)											
YL2401570-005	SNP4323-240921	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	0.75	0.75	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1680241)											
YL2401570-004	SNP435-240921	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0217	0.0189	13.4%	20%	----
Organic / Inorganic Carbon (QC Lot: 1671175)											
VA24C4937-011	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	12.4	12.6	1.29%	20%	----
Organic / Inorganic Carbon (QC Lot: 1671177)											
FJ2402862-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	4.09	4.11	0.02	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1671921)											
VA24C4787-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	3.92	3.78	0.13	Diff <2x LOR	----
Total Metals (QC Lot: 1671860)											
YL2401570-001	SDIAND001Z4-240921	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0048	0.0060	0.0011	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00063	0.00061	0.00002	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.0182	0.0180	0.679%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0210	0.0207	1.32%	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	1.02	1.00	2.22%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	42.4	40.2	5.37%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000093	0.000092	0.0000006	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	0.00033	0.00034	0.000005	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.039	0.039	0.00006	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	0.0418	0.0409	2.17%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	23.8	24.2	1.76%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0238	0.0241	1.33%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000364	0.000383	0.000019	Diff <2x LOR	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00060	0.00062	0.00002	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	2.19	2.20	0.444%	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: 1671860) - continued											
YL2401570-001	SDIAND001Z4-240921	Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00160	0.00159	0.00001	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	5.84	5.74	1.75%	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	146	147	0.394%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.768	0.759	1.27%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	76.5	74.3	3.03%	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	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00077	0.00075	0.00002	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000059	0.000056	0.000003	Diff <2x LOR	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0060	0.0061	0.00010	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: 1671861)											
YL2401570-001	SDIAND001Z4-240921	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00014	0.00015	0.00002	Diff <2x LOR	----
Total Metals (QC Lot: 1679306)											
VA24C5234-004	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1671898)											
VA24C4949-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0014	0.0013	0.00008	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00280	0.00277	0.883%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.117	0.117	0.228%	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	0.010	<0.010	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	58.8	57.6	2.15%	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	0.00070	0.00069	0.00001	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: 1671898) - continued											
VA24C4949-001	Anonymous	Copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.302	0.298	1.46%	20%	----
		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	0.0029	0.0028	0.0001	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	32.1	31.8	1.11%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	1.63	1.56	4.28%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00258	0.00263	1.92%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00133	0.00131	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	2.34	2.25	3.99%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00081	0.00084	0.00004	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000656	0.000557	16.4%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.100	mg/L	7.90	7.74	2.10%	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	6.47	6.01	7.34%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.169	0.178	5.10%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	1.12	1.26	0.14	Diff <2x LOR	----
		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	0.000217	0.000218	0.343%	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	0.0016	0.0015	0.00008	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: 1671899)											
VA24C4949-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1685821)											
FJ2402900-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1678992)											
VA24C4899-001	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	----

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: 1678992) - continued											
VA24C4899-001	Anonymous	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: 1678991)											
VA24C4899-001	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: 1670781)						
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: 1670782)						
Conductivity	----	E100	1	µS/cm	1.0	----
Physical Tests (QCLot: 1678684)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1678685)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1678788)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1678789)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1670783)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1670784)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1670785)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1670786)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1670787)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1670788)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1671176)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1673369)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1673370)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1673370) - continued						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1680241)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1671175)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	# 1.58	B
Organic / Inorganic Carbon (QCLot: 1671177)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1671921)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1671860)						
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: 1671860) - 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: 1671861)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1679306)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1671898)						
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: 1671898) - 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: 1671899)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1685821)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1678992)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 1678991)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1680959)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----

Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1670780)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1670781)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	94.4	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	101	85.0	115	----
Physical Tests (QCLot: 1670782)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	97.0	90.0	110	----
Physical Tests (QCLot: 1678684)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	88.3	85.0	115	----
Physical Tests (QCLot: 1678685)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	98.9	85.0	115	----
Physical Tests (QCLot: 1678788)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1678789)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Anions and Nutrients (QCLot: 1670783)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	94.1	90.0	110	----
Anions and Nutrients (QCLot: 1670784)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.6	90.0	110	----
Anions and Nutrients (QCLot: 1670785)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1670786)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.7	90.0	110	----
Anions and Nutrients (QCLot: 1670787)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	105	90.0	110	----
Anions and Nutrients (QCLot: 1670788)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1671176)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1673369)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1673370)									

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: 1673370) - continued									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1680241)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	94.8	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1671175)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1671177)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1671921)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	108	80.0	120	----
Total Metals (QCLot: 1671860)									
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	98.7	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	98.5	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	100.0	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	98.0	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	103	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	98.4	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	91.9	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	94.1	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	96.2	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	98.3	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	99.2	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	97.3	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	98.1	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	97.5	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	101	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	102	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	95.7	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	94.9	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
Total Metals (QCLot: 1671860) - continued									
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	87.5	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	92.3	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	91.6	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	99.2	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	92.9	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	93.5	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	95.4	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	96.8	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	96.9	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	99.3	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	91.1	80.0	120	----
Total Metals (QCLot: 1671861)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	94.1	80.0	120	----
Total Metals (QCLot: 1679306)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	99.3	80.0	120	----
Dissolved Metals (QCLot: 1671898)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	99.9	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	106	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	104	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	94.7	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	102	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	85.7	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	99.7	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	96.4	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	92.8	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	99.1	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	97.1	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	96.9	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	96.3	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	97.2	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: 1671898) - continued									
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	91.2	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	107	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	100	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	98.7	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	97.7	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	100	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	102	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	106	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	105	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	104	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	99.5	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.9	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	93.7	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	97.5	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	97.1	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	96.4	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	98.6	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	98.3	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	94.2	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	98.1	80.0	120	----
Dissolved Metals (QCLot: 1671899)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	99.1	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	99.8	80.0	120	----
Volatile Organic Compounds (QCLot: 1678992)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	98.0	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	90.9	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	93.0	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	96.3	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	107	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	91.1	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
Hydrocarbons (QCLot: 1678991)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	108	70.0	130	----
Hydrocarbons (QCLot: 1680959)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	124	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	116	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	124	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: 1670783)										
VA24C4787-002	Anonymous	Fluoride	16984-48-8	E235.F	0.959 mg/L	1 mg/L	95.9	75.0	125	----
Anions and Nutrients (QCLot: 1670784)										
VA24C4787-002	Anonymous	Chloride	16887-00-6	E235.Cl	100 mg/L	100 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1670785)										
VA24C4787-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.547 mg/L	0.5 mg/L	109	75.0	125	----
Anions and Nutrients (QCLot: 1670786)										
VA24C4787-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.50 mg/L	2.5 mg/L	99.9	75.0	125	----
Anions and Nutrients (QCLot: 1670787)										
VA24C4787-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.499 mg/L	0.5 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1670788)										
VA24C4787-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	99.8 mg/L	100 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1671176)										
FJ2402862-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.106 mg/L	0.1 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 1673369)										
EO2408336-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.2 mg/L	10 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1673370)										
YL2401570-006	TRCK-240921	Silicate (as SiO2)	7631-86-9	E392	10.5 mg/L	10 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 1680241)										
YL2401570-005	SNP4323-240921	Phosphorus, total	7723-14-0	E372-U	0.0486 mg/L	0.05 mg/L	97.1	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1671175)										
YL2401570-001	SDIAND001Z4-240921	Carbon, total organic [TOC]	----	E355-L	4.39 mg/L	5 mg/L	87.8	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1671177)										
FJ2402862-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.38 mg/L	5 mg/L	87.6	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1671921)										
VA24C4787-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.45 mg/L	5 mg/L	109	70.0	130	----
Total Metals (QCLot: 1671860)										
YL2401570-002	SDIAND001Z8-240921	Aluminum, total	7429-90-5	E420	0.196 mg/L	0.2 mg/L	97.8	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0192 mg/L	0.02 mg/L	96.1	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0386 mg/L	0.04 mg/L	96.5	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: 1671860) - continued										
YL2401570-002	SDIAND001Z8-240921	Bismuth, total	7440-69-9	E420	0.00872 mg/L	0.01 mg/L	87.2	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00389 mg/L	0.004 mg/L	97.3	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00946 mg/L	0.01 mg/L	94.6	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0386 mg/L	0.04 mg/L	96.5	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0191 mg/L	0.02 mg/L	95.3	70.0	130	----
		Copper, total	7440-50-8	E420	0.0180 mg/L	0.02 mg/L	89.8	70.0	130	----
		Iron, total	7439-89-6	E420	1.92 mg/L	2 mg/L	96.0	70.0	130	----
		Lead, total	7439-92-1	E420	0.0176 mg/L	0.02 mg/L	88.0	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0917 mg/L	0.1 mg/L	91.7	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	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0382 mg/L	0.04 mg/L	95.6	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.8 mg/L	10 mg/L	108	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0189 mg/L	0.02 mg/L	94.4	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0413 mg/L	0.04 mg/L	103	70.0	130	----
		Silicon, total	7440-21-3	E420	10.3 mg/L	10 mg/L	103	70.0	130	----
		Silver, total	7440-22-4	E420	0.00370 mg/L	0.004 mg/L	92.6	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00356 mg/L	0.004 mg/L	89.0	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0196 mg/L	0.02 mg/L	98.0	70.0	130	----
		Tin, total	7440-31-5	E420	0.0187 mg/L	0.02 mg/L	93.4	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0409 mg/L	0.04 mg/L	102	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0187 mg/L	0.02 mg/L	93.3	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00363 mg/L	0.004 mg/L	90.8	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Zinc, total	7440-66-6	E420	0.370 mg/L	0.4 mg/L	92.5	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0395 mg/L	0.04 mg/L	98.8	70.0	130	----
Total Metals (QCLot: 1671861)										
YL2401570-002	SDIAND001Z8-240921	Chromium, total	7440-47-3	E420.Cr-L	0.0386 mg/L	0.04 mg/L	96.5	70.0	130	----
Total Metals (QCLot: 1679306)										
VA24C5275-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000973 mg/L	0 mg/L	97.3	70.0	130	----
Dissolved Metals (QCLot: 1671898)										
YL2401566-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.193 mg/L	0.2 mg/L	96.5	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0191 mg/L	0.02 mg/L	95.7	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: 1671898) - continued										
YL2401566-001	Anonymous	Beryllium, dissolved	7440-41-7	E421	0.0379 mg/L	0.04 mg/L	94.6	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00901 mg/L	0.01 mg/L	90.1	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.093 mg/L	0.1 mg/L	92.8	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00379 mg/L	0.004 mg/L	94.8	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00923 mg/L	0.01 mg/L	92.3	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0380 mg/L	0.04 mg/L	94.9	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0186 mg/L	0.02 mg/L	92.8	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0181 mg/L	0.02 mg/L	90.5	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.91 mg/L	2 mg/L	95.6	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0181 mg/L	0.02 mg/L	90.7	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0959 mg/L	0.1 mg/L	95.9	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0182 mg/L	0.02 mg/L	91.1	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0197 mg/L	0.02 mg/L	98.4	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0376 mg/L	0.04 mg/L	94.1	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.38 mg/L	10 mg/L	93.8	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	4.07 mg/L	4 mg/L	102	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0187 mg/L	0.02 mg/L	93.7	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0408 mg/L	0.04 mg/L	102	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.68 mg/L	10 mg/L	96.8	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00395 mg/L	0.004 mg/L	98.6	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	0.0392 mg/L	0.04 mg/L	98.0	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00365 mg/L	0.004 mg/L	91.2	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0192 mg/L	0.02 mg/L	95.8	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0358 mg/L	0.04 mg/L	89.6	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00372 mg/L	0.004 mg/L	92.9	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0950 mg/L	0.1 mg/L	95.0	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.355 mg/L	0.4 mg/L	88.8	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0408 mg/L	0.04 mg/L	102	70.0	130	----
Dissolved Metals (QCLot: 1671899)										
YL2401566-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0380 mg/L	0.04 mg/L	94.9	70.0	130	----
Dissolved Metals (QCLot: 1685821)										
FJ2402900-004	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000994 mg/L	0 mg/L	99.4	70.0	130	----
Volatile Organic Compounds (QCLot: 1678992)										
VA24C4899-002	Anonymous	Benzene	71-43-2	E611A	89.3 µg/L	100 µg/L	89.3	60.0	140	----
		Ethylbenzene	100-41-4	E611A	82.3 µg/L	100 µg/L	82.3	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	101 µg/L	100 µg/L	101	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: 1678992) - continued										
VA24C4899-002	Anonymous	Styrene	100-42-5	E611A	83.9 µg/L	100 µg/L	83.9	60.0	140	----
		Toluene	108-88-3	E611A	89.2 µg/L	100 µg/L	89.2	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	201 µg/L	200 µg/L	100	60.0	140	----
		Xylene, o-	95-47-6	E611A	83.4 µg/L	100 µg/L	83.4	60.0	140	----
Hydrocarbons (QCLot: 1678991)										
VA24C4899-003	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5860 µg/L	6310 µg/L	92.8	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) 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
jillandale@rcaanc-cirnac.gc.ca
mikaya.donovan@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Panda@pwgsc-tpsgc.gc.ca
Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
nkakfwi@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 #

Environmental Division
Yellowknife
Work Order Reference
YL2401570

Telephone : +1 867 873 5593

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	...ments	G = Grab C = Composite	Number of Containers	GMRP - Routine	GMRP - Nutrients	GMRP - Metals	GMRP - TPH	P (colourimetric)	Total Cyanide	Fecal Coliforms	Sulphide	Total Ammonia	Dissolved Metals
SDIAND001Z4-240921	S-DIAND-001	21-Sep-24	14:50	Water		G	8	X	X	X							
SDIAND001Z8-240921	S-DIAND-001	21-Sep-24	15:04	Water		G	8	X	X	X							
SDIAND001Z10-240921	S-DIAND-001	21-Sep-24	17:02	Water		G	8	X	X	X							
SNP435-240921	SNP 43-5	21-Sep-24	19:56	Water		G	12	X	X	X	X	X					
SNP4323-240921	SNP 43-23	21-Sep-24	20:04	Water		G	8	X	X	X		X					
TRCK-240921	TR-CK	21-Sep-24	20:24	Water		G	8	X	X	X		X					

Relinquished by (Sampler Signature): Keenan Kakfwi — T.Ekwo
Date/Time: 2024-September-23 9:01
Company: SLR Consulting

Received by (Name): Simon Arlooktuq
Received by (Signature) SA
Company: ALS SEPT 23/24

SAMPLE CONDITION (lab use only)

Sample Receipt Temperature (deg. C): 2.6
Samples Received in Good Condition? Yes / No (If no, provide details.)
On cooling media? Y / N

ALS Canada Ltd.

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right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401598**		
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	: 25-Sep-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 27-Sep-2024
C-O-C number	: ----	Issue Date	: 04-Oct-2024 11:15
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*
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Erin Sanchez		Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Raymond Lin	Analyst	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	Metals, Burnaby, British Columbia

General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µS/cm	microsiemens per centimetre
-	no units
meq/L	milliequivalents per litre
%	percent

<: 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).
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
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.
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.
RRV	Reported result verified by repeat analysis.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	FB-SDIAND021-240924	EB-SDIAND021-240924	SDIAND021Z10-240924	DUP-SDIAND021Z10-240924	S1954Z2-240924
				Client sampling date / time	24-Sep-2024 11:30	24-Sep-2024 11:45	24-Sep-2024 13:36	24-Sep-2024 13:36	24-Sep-2024 15:52
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-001	YL2401598-002	YL2401598-003	YL2401598-004	YL2401598-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	171	171	422
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	33.2	33.4	<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	16.6	16.7	<1.0
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	<1.0	<1.0	204	204	422
Conductivity	----	E100/VA	1.0	µS/cm	1.1	1.2	511	508	797
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	<0.60	<0.60	7.25	7.18	266
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	<0.60	<0.60	8.37	8.33	282
pH	----	E108/VA	0.10	pH units	5.62	5.56	9.11	9.12	7.72
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	<3.0	<3.0	302	317	476
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	<1.0	<1.0	1.2	22.2
Turbidity	----	E121/VA	0.10	NTU	<0.10	<0.10	2.47	2.47	126
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	<0.0050	0.207	0.208	0.180
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.250 DLDS
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	<0.50	<0.50	1.96	1.98	4.64
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.020	<0.020	0.375	0.373	0.214
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0050	0.0071 HTDC, RRV	0.0487	0.0384	4.69
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0051	0.0071	0.0487	0.0384	4.69
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050 DLDS
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	<0.50	<0.50	10.9	10.8	12.2

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

			Client sample ID		FB-SDIAND021-240924	EB-SDIAND021-240924	SDIAND021Z10-240924	DUP-SDIAND021Z10-240924	S1954Z2-240924
			Client sampling date / time		24-Sep-2024 11:30	24-Sep-2024 11:45	24-Sep-2024 13:36	24-Sep-2024 13:36	24-Sep-2024 15:52
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-001	YL2401598-002	YL2401598-003	YL2401598-004	YL2401598-005
					Result	Result	Result	Result	Result
Anions and Nutrients									
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	<0.30	<0.30	49.2	49.1	<1.50 DLDS
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	<0.50	<0.50	2.73	2.55	7.37
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	<0.50	<0.50	3.87	3.20	8.51
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	<0.10	<0.10	5.18	5.18	8.91
Cation sum	----	EC101/VA	0.10	meq/L	<0.10	<0.10	5.06	5.19	9.17
Ion balance (APHA)	----	EC101/VA	0.01	%	0.0	0.0	-1.17	0.10	1.44
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	<0.0030	<0.0030	0.110	0.106	<0.0150 DLA
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	<0.00010	0.00032	0.00029	<0.00050 DLA
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	<0.00010	0.00048	0.0253	0.0203	0.0391
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	<0.00010	<0.00010	0.0105	0.0108	23.7
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000250 DLA
Boron, total	7440-42-8	E420/VA	0.010	mg/L	<0.010	<0.010	0.891	0.945	1.04
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	<0.0000050	0.0000763	0.0000142	<0.0000250 DLA
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	<0.050	<0.050	2.32	2.34	72.0
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	<0.000010	0.000023	0.000025	0.000134
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00010	0.00256	0.00204	0.00076
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00050	0.00256	0.00204	<0.00250 DLA

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	FB-SDIAND021-240924	EB-SDIAND021-240924	SDIAND021Z10-240924	DUP-SDIAND021Z10-240924	S1954Z2-240924
				Client sampling date / time	24-Sep-2024 11:30	24-Sep-2024 11:45	24-Sep-2024 13:36	24-Sep-2024 13:36	24-Sep-2024 15:52
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-001	YL2401598-002	YL2401598-003	YL2401598-004	YL2401598-005
					Result	Result	Result	Result	Result
Total Metals									
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	<0.00010	0.00012	<0.00010	<0.00050 DLA
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	<0.00050	0.00073	0.00053	<0.00250 DLA
Iron, total	7439-89-6	E420/VA	0.010	mg/L	<0.010	<0.010	0.181	0.163	10.4
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000050	0.000096	0.000083	<0.000250 DLA
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	<0.0010	<0.0010	0.0143	0.0147	0.0233
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	<0.0050	<0.0050	0.626	0.605	24.8
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	<0.00010	<0.00010	0.00437	0.00375	0.566
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	<0.000050	<0.000050	0.00304	0.00297	0.000402
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	<0.00050	0.00107	0.00077	<0.00250 DLA
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.250 DLA
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	<0.050	<0.050	0.656	0.664	2.18
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	<0.00020	<0.00020	0.00063	0.00063	0.00204
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000250 DLA
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	<0.10	<0.10	5.62	5.50	6.63
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	0.000015	0.000015	<0.000050 DLA
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	<0.050	<0.050	113	114	74.3
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	<0.00020	<0.00020	0.378	0.372	1.89
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	<0.50	<0.50	18.0	17.6	<2.50 DLA
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00100 DLA
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000050 DLA

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	FB-SDIAND021-240924	EB-SDIAND021-240924	SDIAND021Z10-240924	DUP-SDIAND021Z10-240924	S1954Z2-240924
				Client sampling date / time	24-Sep-2024 11:30	24-Sep-2024 11:45	24-Sep-2024 13:36	24-Sep-2024 13:36	24-Sep-2024 15:52
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-001	YL2401598-002	YL2401598-003	YL2401598-004	YL2401598-005
					Result	Result	Result	Result	Result
Total Metals									
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050 DLA
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00010	0.00016	0.00016	<0.00050 DLA
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	<0.00030	0.00332	0.00308	<0.00150 DLA
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	<0.00010	0.00802	0.00788	0.246
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	<0.000010	<0.000010	0.000358	0.000350	<0.000050 DLA
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00050	0.00094	0.00088	<0.00250 DLA
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	<0.0030	0.0801	0.0693	0.0174
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00100 DLA
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	<0.0010	<0.0010	0.0312	0.0335	0.0051
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	<0.00010	<0.00010	0.00048	0.00044	<0.00050 DLA
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	<0.00010	0.00054	0.0295	0.0262	0.0408
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	<0.00010	<0.00010	0.00907	0.00914	21.7
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	<0.000050	<0.000050	<0.000050	<0.000250 DLA
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	<0.010	<0.010	0.845	0.868	0.934
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	0.0000090	<0.0000250 DLA
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	<0.050	<0.050	2.13	2.10	68.5
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	<0.000010	0.000020	0.000019	0.000136
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00050	0.00093	0.00084	<0.00250 DLA
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00010	0.00093	0.00084	0.00076

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	FB-SDIAND021-240924	EB-SDIAND021-240924	SDIAND021Z10-240924	DUP-SDIAND021Z10-240924	S1954Z2-240924
				Client sampling date / time	24-Sep-2024 11:30	24-Sep-2024 11:45	24-Sep-2024 13:36	24-Sep-2024 13:36	24-Sep-2024 15:52
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-001	YL2401598-002	YL2401598-003	YL2401598-004	YL2401598-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050 DLA
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00066 RRV	<0.00020	0.00046	0.00040	<0.00100 DLA
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	<0.010	<0.010	0.047	0.043	10.5
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000050	0.000056	0.000055	<0.000250 DLA
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	<0.0010	<0.0010	0.0136	0.0135	0.0231
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	<0.0050	<0.0050	0.470	0.470	23.0
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	<0.00010	<0.00010	0.00198	0.00194	0.561
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	<0.000050	<0.000050	0.00256	0.00260	0.000422
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00050	<0.00050	0.00154	0.00127	<0.00250 DLA
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.050	0.055	0.081	<0.250 DLA
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	<0.050	<0.050	0.898 DTMF	0.861	2.23
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	<0.00020	<0.00020	0.00072	0.00076	0.00151
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	<0.000050	<0.000050	0.000234 DTMF	0.000346 DTMF	<0.000250 DLA
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	<0.050	<0.050	5.53	5.55	6.93
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000010	0.000012	0.000012	<0.000050 DLA
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	<0.050	<0.050	112	115	78.0
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	<0.00020	<0.00020	0.324	0.324	1.95
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	<0.50	<0.50	20.7	20.5	<2.50 DLA
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00100 DLA
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000050 DLA

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	FB-SDIAND021-240924	EB-SDIAND021-240924	SDIAND021Z10-240924	DUP-SDIAND021Z10-240924	S1954Z2-240924
				Client sampling date / time	24-Sep-2024 11:30	24-Sep-2024 11:45	24-Sep-2024 13:36	24-Sep-2024 13:36	24-Sep-2024 15:52
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-001	YL2401598-002	YL2401598-003	YL2401598-004	YL2401598-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050 DLA
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00010	0.00013	0.00013	<0.00050 DLA
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00030	0.00083	<0.00120 DLM	<0.00150 DLA
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00010	<0.00010	0.00587	0.00608	0.225
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	<0.000010	<0.000010	0.000312	0.000316	<0.000050 DLA
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00250 DLA
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	<0.0010	0.0617	0.0606	0.0190
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<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)				Client sample ID	S1954Z5-240924	----	----	----	----
				Client sampling date / time	24-Sep-2024 17:49	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-006	----	----	----	----
					Result	----	----	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	279	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1954Z5-240924	----	----	----	----
				Client sampling date / time	24-Sep-2024 17:49	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-006	----	----	----	----
					Result	----	----	----	----
Physical Tests									
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	279	----	----	----	----
Conductivity	----	E100/VA	1.0	µS/cm	771	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	396	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	422	----	----	----	----
pH	----	E108/VA	0.10	pH units	7.98	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	520	----	----	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	----	----	----	----
Turbidity	----	E121/VA	0.10	NTU	40.0	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0113	----	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.250 DLDS	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	<2.50 DLDS	----	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.100 DLDS	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	3.48	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	3.48	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0050 DLDS	----	----	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	8.43	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	123	----	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	4.80	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	6.02	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1954Z5-240924	----	----	----	----
				Client sampling date / time	24-Sep-2024 17:49	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-006	----	----	----	----
					Result	----	----	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	8.38	----	----	----	----
Cation sum	----	EC101/VA	0.10	meq/L	8.14	----	----	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-1.45	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0063	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00139	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.109	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.374	----	----	----	----
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	0.040	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	134	----	----	----	----
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	0.00048	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00042	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.112	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0042	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1954Z5-240924	----	----	----	----
				Client sampling date / time	24-Sep-2024 17:49	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-006	----	----	----	----
					Result	----	----	----	----
Total Metals									
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	21.3	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.270	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.000306	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00106	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	1.55	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00072	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000050	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	4.39	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	4.16	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.308	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	48.8	----	----	----	----
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	0.00324	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00391	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1954Z5-240924	----	----	----	----
				Client sampling date / time	24-Sep-2024 17:49	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-006	----	----	----	----
					Result	----	----	----	----
Total Metals									
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	0.00038	----	----	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0067	----	----	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00108	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.107	----	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.355	----	----	----	----
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	0.041	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	127	----	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	----	----	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	0.00081 DTC	----	----	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00081 DTC	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00035	----	----	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	<0.00020	----	----	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.106	----	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	----	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0042	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1954Z5-240924	----	----	----	----
				Client sampling date / time	24-Sep-2024 17:49	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-006	----	----	----	----
					Result	----	----	----	----
Dissolved Metals									
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	19.1	----	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.249	----	----	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.000316	----	----	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00153	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	1.50	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00061	----	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000174 DTC, DTSE	----	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	4.40	----	----	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	4.07	----	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.294	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	58.7	----	----	----	----
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	0.00328	----	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00374	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1954Z5-240924	----	----	----	----
				Client sampling date / time	24-Sep-2024 17:49	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401598-006	----	----	----	----
					Result	----	----	----	----
Dissolved Metals									
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	----	----	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0105	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	0.00040	----	----	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401598**	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	: 25-Sep-2024 09:01
PO	: YEL218	Issue Date	: 04-Oct-2024 11:15
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 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-SDIAND021Z10-240924	E298	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	02-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) EB-SDIAND021-240924	E298	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	02-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) FB-SDIAND021-240924	E298	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	02-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) S1954Z2-240924	E298	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	02-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) S1954Z5-240924	E298	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	02-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND021Z10-240924	E298	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	02-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE S1954Z5-240924	E235.Br-L	24-Sep-2024	27-Sep-2024	28 days	2 days	✓	27-Sep-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 DUP-SDIAND021Z10-240924	E235.Br-L	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE EB-SDIAND021-240924	E235.Br-L	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE FB-SDIAND021-240924	E235.Br-L	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE S1954Z2-240924	E235.Br-L	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SDIAND021Z10-240924	E235.Br-L	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE S1954Z5-240924	E235.Cl	24-Sep-2024	27-Sep-2024	28 days	2 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP-SDIAND021Z10-240924	E235.Cl	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE EB-SDIAND021-240924	E235.Cl	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE FB-SDIAND021-240924	E235.Cl	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-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 S1954Z2-240924	E235.Cl	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SDIAND021Z10-240924	E235.Cl	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE S1954Z5-240924	E235.F	24-Sep-2024	27-Sep-2024	28 days	2 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-SDIAND021Z10-240924	E235.F	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE EB-SDIAND021-240924	E235.F	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE FB-SDIAND021-240924	E235.F	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE S1954Z2-240924	E235.F	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND021Z10-240924	E235.F	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE S1954Z5-240924	E235.NO3-L	24-Sep-2024	27-Sep-2024	3 days	2 days	✓	27-Sep-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 DUP-SDIAND021Z10-240924	E235.NO3-L	24-Sep-2024	27-Sep-2024	3 days	3 days	✓	27-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE EB-SDIAND021-240924	E235.NO3-L	24-Sep-2024	27-Sep-2024	3 days	3 days	✓	27-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE FB-SDIAND021-240924	E235.NO3-L	24-Sep-2024	27-Sep-2024	3 days	3 days	✓	27-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE S1954Z2-240924	E235.NO3-L	24-Sep-2024	27-Sep-2024	3 days	3 days	✓	27-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND021Z10-240924	E235.NO3-L	24-Sep-2024	27-Sep-2024	3 days	3 days	✓	27-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE S1954Z5-240924	E235.NO2-L	24-Sep-2024	27-Sep-2024	3 days	2 days	✓	27-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE DUP-SDIAND021Z10-240924	E235.NO2-L	24-Sep-2024	27-Sep-2024	3 days	3 days	✓	27-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE EB-SDIAND021-240924	E235.NO2-L	24-Sep-2024	27-Sep-2024	3 days	3 days	✓	27-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE FB-SDIAND021-240924	E235.NO2-L	24-Sep-2024	27-Sep-2024	3 days	3 days	✓	27-Sep-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 S1954Z2-240924	E235.NO2-L	24-Sep-2024	27-Sep-2024	3 days	3 days	✓	27-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SDIAND021Z10-240924	E235.NO2-L	24-Sep-2024	27-Sep-2024	3 days	3 days	✓	27-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE DUP-SDIAND021Z10-240924	E392	24-Sep-2024	----	----	----		27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE EB-SDIAND021-240924	E392	24-Sep-2024	----	----	----		27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE FB-SDIAND021-240924	E392	24-Sep-2024	----	----	----		27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE S1954Z2-240924	E392	24-Sep-2024	----	----	----		27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE S1954Z5-240924	E392	24-Sep-2024	----	----	----		27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SDIAND021Z10-240924	E392	24-Sep-2024	----	----	----		27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE S1954Z5-240924	E235.SO4	24-Sep-2024	27-Sep-2024	28 days	2 days	✓	27-Sep-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: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
DUP-SDIAND021Z10-240924	E235.SO4	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
EB-SDIAND021-240924	E235.SO4	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
FB-SDIAND021-240924	E235.SO4	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
S1954Z2-240924	E235.SO4	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SDIAND021Z10-240924	E235.SO4	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
DUP-SDIAND021Z10-240924	E421.Cr-L	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	30-Sep-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
EB-SDIAND021-240924	E421.Cr-L	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	30-Sep-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
FB-SDIAND021-240924	E421.Cr-L	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	30-Sep-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
S1954Z2-240924	E421.Cr-L	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	30-Sep-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) S1954Z5-240924	E421.Cr-L	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	30-Sep-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SDIAND021Z10-240924	E421.Cr-L	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	30-Sep-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-SDIAND021Z10-240924	E509	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) EB-SDIAND021-240924	E509	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) FB-SDIAND021-240924	E509	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) S1954Z2-240924	E509	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) S1954Z5-240924	E509	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND021Z10-240924	E509	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) DUP-SDIAND021Z10-240924	E421	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	01-Oct-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)										
EB-SDIAND021-240924	E421	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	01-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
FB-SDIAND021-240924	E421	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	01-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
S1954Z2-240924	E421	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	01-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
S1954Z5-240924	E421	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	01-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SDIAND021Z10-240924	E421	24-Sep-2024	30-Sep-2024	180 days	6 days	✓	01-Oct-2024	180 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
DUP-SDIAND021Z10-240924	E358-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
EB-SDIAND021-240924	E358-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
FB-SDIAND021-240924	E358-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
S1954Z2-240924	E358-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) S1954Z5-240924	E358-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND021Z10-240924	E358-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) DUP-SDIAND021Z10-240924	E355-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) EB-SDIAND021-240924	E355-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) FB-SDIAND021-240924	E355-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) S1954Z2-240924	E355-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) S1954Z5-240924	E355-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND021Z10-240924	E355-L	24-Sep-2024	29-Sep-2024	28 days	5 days	✓	29-Sep-2024	28 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE S1954Z5-240924	E290	24-Sep-2024	27-Sep-2024	14 days	2 days	✓	27-Sep-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 DUP-SDIAND021Z10-240924	E290	24-Sep-2024	27-Sep-2024	14 days	3 days	✓	27-Sep-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE EB-SDIAND021-240924	E290	24-Sep-2024	27-Sep-2024	14 days	3 days	✓	27-Sep-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE FB-SDIAND021-240924	E290	24-Sep-2024	27-Sep-2024	14 days	3 days	✓	27-Sep-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE S1954Z2-240924	E290	24-Sep-2024	27-Sep-2024	14 days	3 days	✓	27-Sep-2024	14 days	3 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND021Z10-240924	E290	24-Sep-2024	27-Sep-2024	14 days	3 days	✓	27-Sep-2024	14 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE S1954Z5-240924	E100	24-Sep-2024	27-Sep-2024	28 days	2 days	✓	27-Sep-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-SDIAND021Z10-240924	E100	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE EB-SDIAND021-240924	E100	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE FB-SDIAND021-240924	E100	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-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 S1954Z2-240924	E100	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND021Z10-240924	E100	24-Sep-2024	27-Sep-2024	28 days	3 days	✓	27-Sep-2024	28 days	3 days	✓
Physical Tests : pH by Meter										
HDPE S1954Z5-240924	E108	24-Sep-2024	27-Sep-2024	0.25 hrs	59 hrs	✗ EHTR-FM	27-Sep-2024	0.25 hrs	64 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE S1954Z2-240924	E108	24-Sep-2024	27-Sep-2024	0.25 hrs	60 hrs	✗ EHTR-FM	27-Sep-2024	0.25 hrs	66 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-SDIAND021Z10-240924	E108	24-Sep-2024	27-Sep-2024	0.25 hrs	63 hrs	✗ EHTR-FM	27-Sep-2024	0.25 hrs	68 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SDIAND021Z10-240924	E108	24-Sep-2024	27-Sep-2024	0.25 hrs	63 hrs	✗ EHTR-FM	27-Sep-2024	0.25 hrs	68 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE EB-SDIAND021-240924	E108	24-Sep-2024	27-Sep-2024	0.25 hrs	65 hrs	✗ EHTR-FM	27-Sep-2024	0.25 hrs	70 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE FB-SDIAND021-240924	E108	24-Sep-2024	27-Sep-2024	0.25 hrs	65 hrs	✗ EHTR-FM	27-Sep-2024	0.25 hrs	70 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE DUP-SDIAND021Z10-240924	E162-L	24-Sep-2024	----	----	----		01-Oct-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										
EB-SDIAND021-240924	E162-L	24-Sep-2024	----	----	----		01-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
FB-SDIAND021-240924	E162-L	24-Sep-2024	----	----	----		01-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
S1954Z2-240924	E162-L	24-Sep-2024	----	----	----		01-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
S1954Z5-240924	E162-L	24-Sep-2024	----	----	----		01-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
SDIAND021Z10-240924	E162-L	24-Sep-2024	----	----	----		01-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
DUP-SDIAND021Z10-240924	E160-L	24-Sep-2024	----	----	----		01-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
EB-SDIAND021-240924	E160-L	24-Sep-2024	----	----	----		01-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
FB-SDIAND021-240924	E160-L	24-Sep-2024	----	----	----		01-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
S1954Z2-240924	E160-L	24-Sep-2024	----	----	----		01-Oct-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 : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
S1954Z5-240924	E160-L	24-Sep-2024	----	----	----		01-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SDIAND021Z10-240924	E160-L	24-Sep-2024	----	----	----		01-Oct-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
DUP-SDIAND021Z10-240924	E121	24-Sep-2024	----	----	----		27-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
EB-SDIAND021-240924	E121	24-Sep-2024	----	----	----		27-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
FB-SDIAND021-240924	E121	24-Sep-2024	----	----	----		27-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
S1954Z2-240924	E121	24-Sep-2024	----	----	----		27-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
S1954Z5-240924	E121	24-Sep-2024	----	----	----		27-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
SDIAND021Z10-240924	E121	24-Sep-2024	----	----	----		27-Sep-2024	3 days	3 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved)										
DUP-SDIAND021Z10-240924	E420.Cr-L	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	01-Oct-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) EB-SDIAND021-240924	E420.Cr-L	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	01-Oct-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) FB-SDIAND021-240924	E420.Cr-L	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	01-Oct-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) S1954Z2-240924	E420.Cr-L	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	01-Oct-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) S1954Z5-240924	E420.Cr-L	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	01-Oct-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SDIAND021Z10-240924	E420.Cr-L	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	01-Oct-2024	180 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) DUP-SDIAND021Z10-240924	E508	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) EB-SDIAND021-240924	E508	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) FB-SDIAND021-240924	E508	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) S1954Z2-240924	E508	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) S1954Z5-240924	E508	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND021Z10-240924	E508	24-Sep-2024	02-Oct-2024	28 days	8 days	✓	02-Oct-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) DUP-SDIAND021Z10-240924	E420	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) EB-SDIAND021-240924	E420	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) FB-SDIAND021-240924	E420	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) S1954Z2-240924	E420	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) S1954Z5-240924	E420	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SDIAND021Z10-240924	E420	24-Sep-2024	01-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	8 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	1676530	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	1680238	1	14	7.1	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1676542	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1676533	1	14	7.1	5.0	✓
Conductivity in Water	E100	1676531	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1678054	1	10	10.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1685821	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1678053	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1680239	1	6	16.6	5.0	✓
Fluoride in Water by IC	E235.F	1676541	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1676543	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1676534	1	18	5.5	5.0	✓
pH by Meter	E108	1676529	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1678431	1	16	6.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1676536	1	14	7.1	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1684164	1	16	6.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1677301	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1685214	1	8	12.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1677299	2	19	10.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1680240	1	6	16.6	5.0	✓
Turbidity by Nephelometry	E121	1677327	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1676530	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	1680238	1	14	7.1	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1676542	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1676533	1	14	7.1	5.0	✓
Conductivity in Water	E100	1676531	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1678054	1	10	10.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1685821	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1678053	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1680239	1	6	16.6	5.0	✓
Fluoride in Water by IC	E235.F	1676541	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1676543	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1676534	1	18	5.5	5.0	✓
pH by Meter	E108	1676529	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1678431	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							
Sulfate in Water by IC	E235.SO4	1676536	1	14	7.1	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1684164	1	16	6.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1677301	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1685214	1	8	12.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1677299	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1680240	1	6	16.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1684155	1	16	6.2	5.0	✓
Turbidity by Nephelometry	E121	1677327	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1676530	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	1680238	1	14	7.1	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1676542	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1676533	1	14	7.1	5.0	✓
Conductivity in Water	E100	1676531	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1678054	1	10	10.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1685821	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1678053	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1680239	1	6	16.6	5.0	✓
Fluoride in Water by IC	E235.F	1676541	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1676543	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1676534	1	18	5.5	5.0	✓
Reactive Silica by Colourimetry	E392	1678431	1	16	6.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1676536	1	14	7.1	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1684164	1	16	6.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1677301	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1685214	1	8	12.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1677299	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1680240	1	6	16.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1684155	1	16	6.2	5.0	✓
Turbidity by Nephelometry	E121	1677327	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1680238	1	14	7.1	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1676542	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1676533	1	14	7.1	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1678054	1	10	10.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1685821	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1678053	2	20	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1680239	1	6	16.6	5.0	✓
Fluoride in Water by IC	E235.F	1676541	1	13	7.6	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1676543	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1676534	1	18	5.5	5.0	✓
Reactive Silica by Colourimetry	E392	1678431	1	16	6.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1676536	1	14	7.1	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1677301	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1685214	1	8	12.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1677299	1	19	5.2	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1680240	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 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.
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).

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

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401598**	Page	: 1 of 17
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Project	: 208.030049.00001	Date Samples Received	: 25-Sep-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 27-Sep-2024
C-O-C number	: ----	Issue Date	: 04-Oct-2024 11:15
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:

- 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.

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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: 1676529)											
YL2401589-001	Anonymous	pH	----	E108	0.10	pH units	7.22	7.21	0.139%	4%	----
Physical Tests (QC Lot: 1676530)											
YL2401589-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	13.6	13.5	0.738%	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	13.6	13.5	0.738%	20%	----
Physical Tests (QC Lot: 1676531)											
YL2401589-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	1900	1970	3.51%	10%	----
Physical Tests (QC Lot: 1677327)											
VA24C5547-003	Anonymous	Turbidity	----	E121	0.10	NTU	0.60	0.60	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1684164)											
FJ2402906-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	142	152	9.5	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1676533)											
VA24C5665-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	0.68	0.66	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1676534)											
VA24C5665-001	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: 1676536)											
VA24C5665-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	9.69	9.70	0.101%	20%	----
Anions and Nutrients (QC Lot: 1676541)											
YL2401592-001	Anonymous	Fluoride	16984-48-8	E235.F	0.100	mg/L	0.109	0.108	0.0008	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1676542)											
YL2401592-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.250	mg/L	<0.250	<0.250	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1676543)											
YL2401592-001	Anonymous	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: 1678431)											
YL2401594-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1680238)											
VA24C5238-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0097	0.0097	0.00003	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*
Organic / Inorganic Carbon (QC Lot: 1680239)											
YL2401598-001	FB-SDIAND021-240924	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1680240)											
YL2401598-001	FB-SDIAND021-240924	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Total Metals (QC Lot: 1677299)											
YL2401597-001	Anonymous	Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000075	0.000087	0.000012	Diff <2x LOR	----
YL2401597-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0058	0.0052	0.0006	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00036	0.00035	0.000008	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.0222	0.0225	1.34%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	1.29	1.32	2.34%	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	0.062	0.062	0.0003	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	76.9	79.2	3.04%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000070	0.000067	0.000002	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00140	<0.00050	0.00090	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.041	0.038	0.003	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	0.0252	0.0243	3.39%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	23.7	23.6	0.420%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.205	0.206	0.783%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00080	<0.00050	0.00030	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	4.50	4.56	1.36%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00469	0.00463	1.23%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	7.43	7.36	0.953%	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	11.3	11.5	1.43%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	1.04	1.05	0.932%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	8.91	8.69	2.50%	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: 1677299) - continued											
YL2401597-001	Anonymous	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	0.00034	0.00037	0.00003	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00095	0.00096	0.000002	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00126	0.00128	1.84%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00164	0.00167	0.00003	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0057	0.0053	0.0004	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	0.00048	0.00048	0.000005	Diff <2x LOR	----
Total Metals (QC Lot: 1677301)											
YL2401597-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00049	0.00045	0.00004	Diff <2x LOR	----
Total Metals (QC Lot: 1685214)											
YL2401597-003	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1678053)											
YL2401597-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0033	0.0035	0.0001	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00031	0.00030	0.000007	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.0228	0.0230	1.09%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	1.20	1.23	2.88%	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	0.056	0.056	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	74.2	73.5	0.857%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000069	0.000069	0.00000005	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	0.00057	0.00058	0.000008	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	<0.00020	<0.00020	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.047	0.046	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	0.0233	0.0231	0.869%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	21.4	21.0	1.73%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.191	0.188	1.14%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000133	0.000129	0.000004	Diff <2x LOR	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00078	0.00077	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: 1678053) - continued											
YL2401597-001	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	4.55	4.44	2.46%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00461	0.00453	1.81%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000081	0.000083	0.000002	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	7.52	7.65	1.72%	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	11.3	11.0	2.62%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	1.03	1.02	0.782%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	10.1	9.82	3.10%	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	0.00092	0.00090	0.00002	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00118	0.00117	0.880%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.00153	0.00144	0.00009	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0048	0.0047	0.00009	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	0.00048	0.00048	0.000005	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1678054)											
YL2401597-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00057	0.00058	0.000008	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1685821)											
FJ2402900-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1676530)						
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: 1676531)						
Conductivity	----	E100	1	µS/cm	1.3	----
Physical Tests (QCLot: 1677327)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1684155)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1684164)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1676533)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1676534)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1676536)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1676541)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1676542)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1676543)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1678431)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1680238)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1680239)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1680240)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1680240) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1677299)						
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: 1677299) - 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: 1677301)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1685214)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1678053)						
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: 1678053) - 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: 1678054)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1685821)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1676529)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1676530)									
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	104	85.0	115	----
Physical Tests (QCLot: 1676531)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	98.1	90.0	110	----
Physical Tests (QCLot: 1677327)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1684155)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	89.8	85.0	115	----
Physical Tests (QCLot: 1684164)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1676533)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.7	90.0	110	----
Anions and Nutrients (QCLot: 1676534)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.2	90.0	110	----
Anions and Nutrients (QCLot: 1676536)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1676541)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	98.1	90.0	110	----
Anions and Nutrients (QCLot: 1676542)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1676543)									
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: 1678431)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1680238)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1680239)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	97.5	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 1680240)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	97.1	80.0	120	----
Total Metals (QCLot: 1677299)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	106	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	108	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	109	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	99.1	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	97.1	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	103	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	104	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	107	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	97.5	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	98.3	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	101	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	110	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	106	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	107	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	105	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	96.2	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	96.7	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	107	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	96.5	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	98.0	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	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: 1677299) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	100	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.0	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	98.5	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	106	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	99.9	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Total Metals (QCLot: 1677301)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	107	80.0	120	----
Total Metals (QCLot: 1685214)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	101	80.0	120	----
Dissolved Metals (QCLot: 1678053)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	105	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	97.7	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	99.7	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	94.7	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	97.4	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	96.7	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	94.0	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	99.0	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	97.4	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	95.6	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	95.7	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	99.8	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	97.3	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	94.7	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	92.5	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	96.4	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	97.0	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	93.9	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	98.5	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	97.9	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	98.4	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: 1678053) - continued									
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	107	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	89.3	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	98.6	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	97.5	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	95.5	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	96.9	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	95.6	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	93.5	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	94.4	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	94.7	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	96.3	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	89.4	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	96.2	80.0	120	----
Dissolved Metals (QCLot: 1678054)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	97.4	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	99.8	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1676533)										
YL2401592-002	Anonymous	Chloride	16887-00-6	E235.Cl	500 mg/L	500 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1676534)										
YL2401589-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	4.88 mg/L	5 mg/L	97.7	75.0	125	----
Anions and Nutrients (QCLot: 1676536)										
YL2401592-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	500 mg/L	500 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1676541)										
YL2401592-002	Anonymous	Fluoride	16984-48-8	E235.F	5.09 mg/L	5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1676542)										
YL2401592-002	Anonymous	Bromide	24959-67-9	E235.Br-L	2.56 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1676543)										
YL2401592-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	12.5 mg/L	12.5 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 1678431)										
YL2401594-003	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.1 mg/L	10 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1680238)										
VA24C5238-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1680239)										
YL2401598-002	EB-SDIAND021-240924	Carbon, dissolved organic [DOC]	----	E358-L	4.90 mg/L	5 mg/L	98.0	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1680240)										
YL2401598-002	EB-SDIAND021-240924	Carbon, total organic [TOC]	----	E355-L	4.93 mg/L	5 mg/L	98.6	70.0	130	----
Total Metals (QCLot: 1677299)										
YL2401597-002	Anonymous	Aluminum, total	7429-90-5	E420	0.194 mg/L	0.2 mg/L	96.9	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0199 mg/L	0.02 mg/L	99.3	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0349 mg/L	0.04 mg/L	87.2	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00881 mg/L	0.01 mg/L	88.1	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00389 mg/L	0.004 mg/L	97.2	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00995 mg/L	0.01 mg/L	99.5	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0398 mg/L	0.04 mg/L	99.4	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	0.0182 mg/L	0.02 mg/L	91.0	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
Total Metals (QCLot: 1677299) - continued										
YL2401597-002	Anonymous	Iron, total	7439-89-6	E420	2.01 mg/L	2 mg/L	100	70.0	130	----
		Lead, total	7439-92-1	E420	0.0177 mg/L	0.02 mg/L	88.3	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0888 mg/L	0.1 mg/L	88.8	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	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0378 mg/L	0.04 mg/L	94.6	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.87 mg/L	10 mg/L	98.7	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0194 mg/L	0.02 mg/L	96.9	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0395 mg/L	0.04 mg/L	98.7	70.0	130	----
		Silicon, total	7440-21-3	E420	9.31 mg/L	10 mg/L	93.1	70.0	130	----
		Silver, total	7440-22-4	E420	0.00376 mg/L	0.004 mg/L	94.1	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	0.0386 mg/L	0.04 mg/L	96.6	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00352 mg/L	0.004 mg/L	88.0	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0195 mg/L	0.02 mg/L	97.4	70.0	130	----
		Tin, total	7440-31-5	E420	0.0195 mg/L	0.02 mg/L	97.4	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0380 mg/L	0.04 mg/L	95.1	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0187 mg/L	0.02 mg/L	93.5	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	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	0.360 mg/L	0.4 mg/L	89.9	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0387 mg/L	0.04 mg/L	96.7	70.0	130	----
Total Metals (QCLot: 1677301)										
YL2401597-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0398 mg/L	0.04 mg/L	99.4	70.0	130	----
Total Metals (QCLot: 1685214)										
YL2401597-004	Anonymous	Mercury, total	7439-97-6	E508	0.000102 mg/L	0 mg/L	102	70.0	130	----
Dissolved Metals (QCLot: 1678053)										
YL2401597-002	Anonymous	Cobalt, dissolved	7440-48-4	E421	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0367 mg/L	0.04 mg/L	91.8	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0424 mg/L	0.04 mg/L	106	70.0	130	----
YL2401597-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.201 mg/L	0.2 mg/L	101	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0198 mg/L	0.02 mg/L	99.1	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	0.0365 mg/L	0.04 mg/L	91.3	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00880 mg/L	0.01 mg/L	88.0	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.084 mg/L	0.1 mg/L	83.9	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00374 mg/L	0.004 mg/L	93.4	70.0	130	----
		Calcium, dissolved	7440-70-2	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: 1678053) - continued										
YL2401597-002	Anonymous	Cesium, dissolved	7440-46-2	E421	0.0102 mg/L	0.01 mg/L	102	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		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	1.84 mg/L	2 mg/L	92.0	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0182 mg/L	0.02 mg/L	91.0	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0889 mg/L	0.1 mg/L	88.9	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	0.0200 mg/L	0.02 mg/L	100	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	10.2 mg/L	10 mg/L	102	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0198 mg/L	0.02 mg/L	99.2	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.69 mg/L	10 mg/L	96.9	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00357 mg/L	0.004 mg/L	89.2	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	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0400 mg/L	0.04 mg/L	100	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00368 mg/L	0.004 mg/L	91.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0198 mg/L	0.02 mg/L	98.8	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0186 mg/L	0.02 mg/L	93.1	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	ND mg/L	----	ND	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0965 mg/L	0.1 mg/L	96.5	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.349 mg/L	0.4 mg/L	87.2	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
Dissolved Metals (QCLot: 1678054)										
YL2401597-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
Dissolved Metals (QCLot: 1685821)										
FJ2402900-004	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000994 mg/L	0 mg/L	99.4	70.0	130	----

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
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 #

Environmental Division
Yellowknife
Work Order Reference
YL2401598
Telephone : +1 867 873 5593

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	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	Dissolved Metals
FB-SDIAND021-240924	S-DIAND-021	24-Sep-24	11:30	Water		G	8	X	X	X							
EB-SDIAND021-240924	S-DIAND-021	24-Sep-24	11:45	Water		G	8	X	X	X							
SDIAND021Z10-240924	S-DIAND-021	24-Sep-24	13:36	Water		G	8	X	X	X							
DUP-SDIAND021Z10-240924	S-DIAND-021	24-Sep-24	13:36	Water		G	8	X	X	X							
S1954Z2-240924	S-1954	24-Sep-24	15:52	Water		G	8	X	X	X							
S1954Z5-240924	S-1954	24-Sep-24	17:49	Water		G	8	X	X	X							

Relinquished by (Sampler Signature): Keenan Kakfwi — T.Kakfwi
Date/Time: 2024-September-25 9:01
Company: SLR Consulting

Received by (Name): Simon Arlooktoo
Received by (Signature) SA
Company: ALS
Sample Receipt Temperature (deg. C): SEPT 25/24 2.8

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	: **YL2401626**		
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Vancouver
Contact	: Jenny Musijowski	Account Manager	: Oliver Gregg
Address	: 2800, 700 - 2nd Street SW Calgary Alberta Canada T2P 2W2	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: 780-930-8648	Telephone	: 1 867 445 7143
Project	: CA-GLD-20137939/93000B.93603 2024 Giant Drive Points Water	Date Samples Received	: 27-Sep-2024 09:25
PO	: ----	Date Analysis Commenced	: 29-Sep-2024
C-O-C number	: GM-2024-5007	Issue Date	: 07-Oct-2024 12:06
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-GOLD100-003		
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

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
Erin Sanchez		Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Robert Nguyen	Analyst	Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µS/cm	microsiemens per centimetre
-	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.

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	GM-2024-5007-01	GM-2024-5007-02	GM-2024-5007-03	----	----
				Client sampling date / time	26-Sep-2024 15:30	26-Sep-2024 15:40	26-Sep-2024 17:45	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401626-001	YL2401626-002	YL2401626-003	----	----
					Result	Result	Result	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	201	201	149	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	20.4	16.2	<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	10.2	8.1	<1.0	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	221	217	149	----	----
Conductivity	----	E100/VA	1.0	µS/cm	490	484	1270	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	215	209	595	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	232	230	601	----	----
pH	----	E108/VA	0.10	pH units	8.56	8.50	8.01	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	350	339	1060	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	2.5	2.7	5.1	----	----
Turbidity	----	E121/VA	0.10	NTU	2.94	3.64	2.32	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.108	0.109	0.298	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	<0.050	0.272	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	3.61	3.58	23.0	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.191	0.188	0.115	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0050	<0.0050	0.0996	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	<0.0051	<0.0051	0.0996	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0014	0.0013	<0.0050 DLDS	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	33.0	33.2	11.3	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	GM-2024-5007-01	GM-2024-5007-02	GM-2024-5007-03	----	----
				Client sampling date / time	26-Sep-2024 15:30	26-Sep-2024 15:40	26-Sep-2024 17:45	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401626-001	YL2401626-002	YL2401626-003	----	----
					Result	Result	Result	----	----
Anions and Nutrients									
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	43.2	42.2	531	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	11.5	10.4	10.5	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	10.2	10.4	11.4	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0293	0.0320	0.0224	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00515	0.00528	0.0100	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00948	0.00905	0.00609	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0441	0.0457	0.0159	----	----
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	<0.000050	<0.000050	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.026	0.026	0.049	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000112	0.0000089	0.0000166	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	65.7	65.6	161	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000012	0.000012	<0.000010	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	0.00065	0.00065	<0.00050	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00065	0.00065	0.00027	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00112	0.00121	0.00554	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00160	0.00147	0.00309	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.630	0.937	0.473	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	GM-2024-5007-01	GM-2024-5007-02	GM-2024-5007-03	----	----
				Client sampling date / time	26-Sep-2024 15:30	26-Sep-2024 15:40	26-Sep-2024 17:45	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401626-001	YL2401626-002	YL2401626-003	----	----
					Result	Result	Result	----	----
Total Metals									
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0145	0.0140	0.0167	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	16.5	16.0	48.4	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.250	0.310	1.74	----	----
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	0.00104	0.00101	0.00571	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00372	0.00376	0.00444	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	0.102	0.080	<0.050	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	9.64	9.33	4.82	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00528	0.00524	0.00114	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000475	0.000501	0.000361	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	17.3	16.9	5.52	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	7.45	7.26	38.0	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.147	0.143	0.761	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	16.2	15.3	182	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000016	0.000015	0.000047	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00122	0.00128	<0.00120 DLM	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00347	0.00328	0.00019	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	GM-2024-5007-01	GM-2024-5007-02	GM-2024-5007-03	----	----
				Client sampling date / time	26-Sep-2024 15:30	26-Sep-2024 15:40	26-Sep-2024 17:45	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401626-001	YL2401626-002	YL2401626-003	----	----
					Result	Result	Result	----	----
Total Metals									
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00720	0.00705	0.0121	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00373	0.00377	<0.00050	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00049	0.00053	0.00038	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0106	0.0114	0.0134	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00506	0.00503	0.00926	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.00894	0.00843	0.00656	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0400	0.0416	0.0167	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000020	mg/L	<0.000020	<0.000020	<0.000020	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.024	0.023	0.045	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000084	0.0000058	0.0000170	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	60.1	57.5	150	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000013	0.000012	<0.000010	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	0.00052	0.00054	<0.00050	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00052	0.00054	0.00022	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00110	0.00108	0.00566	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00130	0.00127	0.00282	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.556	0.554	0.643 DTC	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	GM-2024-5007-01	GM-2024-5007-02	GM-2024-5007-03	----	----
				Client sampling date / time	26-Sep-2024 15:30	26-Sep-2024 15:40	26-Sep-2024 17:45	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401626-001	YL2401626-002	YL2401626-003	----	----
					Result	Result	Result	----	----
Dissolved Metals									
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0126	0.0125	0.0149	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	15.8	16.0	53.5	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.258	0.266	1.92	----	----
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	0.00115	0.00117	0.00517	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00357	0.00363	0.00430	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.050	<0.050	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	8.98	9.13	4.66	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00495	0.00499	0.00110	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000491	0.000430	0.000376	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	15.4	15.1	5.41	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	7.22	7.05	36.2	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.141	0.144	0.796	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	15.5	14.8	182	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	0.000015	0.000014	0.000040	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	0.00046	0.00039	0.00052	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00332	0.00314	0.00022	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	GM-2024-5007-01	GM-2024-5007-02	GM-2024-5007-03	----	----
				Client sampling date / time	26-Sep-2024 15:30	26-Sep-2024 15:40	26-Sep-2024 17:45	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401626-001	YL2401626-002	YL2401626-003	----	----
					Result	Result	Result	----	----
Dissolved Metals									
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00710	0.00682	0.0103	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	0.00341	0.00340	<0.00050	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0010	<0.0010	0.0015	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	0.00047	0.00046	0.00042	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401626**	Page	: 1 of 17
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Yellowknife
Contact	: Jenny Musijowski	Account Manager	: Oliver Gregg
Address	: 2800, 700 - 2nd Street SW Calgary AB Canada T2P 2W2	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: 780-930-8648	Telephone	: 1 867 445 7143
Project	: CA-GLD-20137939/93000B.93603 2024 Giant Drive Points Water Sampling	Date Samples Received	: 27-Sep-2024 09:25
PO	: ----	Issue Date	: 07-Oct-2024 12:06
C-O-C number	: GM-2024-5007		
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-GOLD100-003		
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

- 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) GM-2024-5007-01	E298	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GM-2024-5007-02	E298	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GM-2024-5007-03	E298	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE GM-2024-5007-01	E235.Br-L	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE GM-2024-5007-02	E235.Br-L	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE GM-2024-5007-03	E235.Br-L	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GM-2024-5007-01	E235.Cl	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-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 GM-2024-5007-02	E235.Cl	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GM-2024-5007-03	E235.Cl	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE GM-2024-5007-01	E235.F	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE GM-2024-5007-02	E235.F	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE GM-2024-5007-03	E235.F	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GM-2024-5007-01	E235.NO3-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GM-2024-5007-02	E235.NO3-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GM-2024-5007-03	E235.NO3-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GM-2024-5007-01	E235.NO2-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-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 GM-2024-5007-02	E235.NO2-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GM-2024-5007-03	E235.NO2-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE GM-2024-5007-01	E392	26-Sep-2024	----	----	----		30-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE GM-2024-5007-02	E392	26-Sep-2024	----	----	----		30-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE GM-2024-5007-03	E392	26-Sep-2024	----	----	----		30-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GM-2024-5007-01	E235.SO4	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GM-2024-5007-02	E235.SO4	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GM-2024-5007-03	E235.SO4	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) GM-2024-5007-01	E421.Cr-L	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-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) GM-2024-5007-02	E421.Cr-L	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) GM-2024-5007-03	E421.Cr-L	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) GM-2024-5007-01	E509	26-Sep-2024	05-Oct-2024	28 days	9 days	✓	05-Oct-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) GM-2024-5007-02	E509	26-Sep-2024	05-Oct-2024	28 days	9 days	✓	05-Oct-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) GM-2024-5007-03	E509	26-Sep-2024	05-Oct-2024	28 days	9 days	✓	05-Oct-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GM-2024-5007-01	E421	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GM-2024-5007-02	E421	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GM-2024-5007-03	E421	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) GM-2024-5007-01	E358-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-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
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) GM-2024-5007-02	E358-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) GM-2024-5007-03	E358-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GM-2024-5007-01	E355-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GM-2024-5007-02	E355-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GM-2024-5007-03	E355-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GM-2024-5007-01	E290	26-Sep-2024	29-Sep-2024	14 days	3 days	✓	30-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GM-2024-5007-02	E290	26-Sep-2024	29-Sep-2024	14 days	3 days	✓	30-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GM-2024-5007-03	E290	26-Sep-2024	29-Sep-2024	14 days	3 days	✓	30-Sep-2024	14 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE GM-2024-5007-01	E100	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	30-Sep-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 GM-2024-5007-02	E100	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	30-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE GM-2024-5007-03	E100	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	30-Sep-2024	28 days	4 days	✓
Physical Tests : pH by Meter										
HDPE GM-2024-5007-03	E108	26-Sep-2024	29-Sep-2024	0.25 hrs	64 hrs	✖ EHTR-FM	30-Sep-2024	0.25 hrs	91 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE GM-2024-5007-01	E108	26-Sep-2024	29-Sep-2024	0.25 hrs	67 hrs	✖ EHTR-FM	30-Sep-2024	0.25 hrs	93 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE GM-2024-5007-02	E108	26-Sep-2024	29-Sep-2024	0.25 hrs	67 hrs	✖ EHTR-FM	30-Sep-2024	0.25 hrs	93 hrs	✖ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GM-2024-5007-01	E162-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GM-2024-5007-02	E162-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE GM-2024-5007-03	E162-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GM-2024-5007-01	E160-L	26-Sep-2024	----	----	----		03-Oct-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] GM-2024-5007-02	E160-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] GM-2024-5007-03	E160-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE GM-2024-5007-01	E121	26-Sep-2024	----	----	----		29-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE GM-2024-5007-02	E121	26-Sep-2024	----	----	----		29-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE GM-2024-5007-03	E121	26-Sep-2024	----	----	----		29-Sep-2024	3 days	3 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) GM-2024-5007-01	E420.Cr-L	26-Sep-2024	02-Oct-2024	180 days	5 days	✓	02-Oct-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) GM-2024-5007-02	E420.Cr-L	26-Sep-2024	02-Oct-2024	180 days	5 days	✓	02-Oct-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) GM-2024-5007-03	E420.Cr-L	26-Sep-2024	02-Oct-2024	180 days	5 days	✓	02-Oct-2024	180 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GM-2024-5007-01	E508	26-Sep-2024	04-Oct-2024	28 days	8 days	✓	04-Oct-2024	28 days	8 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GM-2024-5007-02	E508	26-Sep-2024	04-Oct-2024	28 days	8 days	✓	04-Oct-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GM-2024-5007-03	E508	26-Sep-2024	04-Oct-2024	28 days	8 days	✓	04-Oct-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GM-2024-5007-01	E420	26-Sep-2024	02-Oct-2024	180 days	5 days	✓	02-Oct-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GM-2024-5007-02	E420	26-Sep-2024	02-Oct-2024	180 days	5 days	✓	02-Oct-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GM-2024-5007-03	E420	26-Sep-2024	02-Oct-2024	180 days	5 days	✓	02-Oct-2024	180 days	6 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	1680146	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1688752	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1680143	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1680134	1	11	9.0	5.0	✓
Conductivity in Water	E100	1680145	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682721	1	4	25.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692035	2	28	7.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682720	2	20	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1688747	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1680139	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1680138	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1680135	1	11	9.0	5.0	✓
pH by Meter	E108	1680144	1	18	5.5	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1680137	1	11	9.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1687940	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1688751	1	13	7.6	5.0	✓
Turbidity by Nephelometry	E121	1680187	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1680146	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1688752	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1680143	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1680134	1	11	9.0	5.0	✓
Conductivity in Water	E100	1680145	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682721	1	4	25.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692035	2	28	7.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682720	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1688747	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1680139	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1680138	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1680135	1	11	9.0	5.0	✓
pH by Meter	E108	1680144	1	18	5.5	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Sulfate in Water by IC	E235.SO4	1680137	1	11	9.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1687940	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1688751	1	13	7.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1687955	1	8	12.5	5.0	✓
Turbidity by Nephelometry	E121	1680187	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1680146	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1688752	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1680143	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1680134	1	11	9.0	5.0	✓
Conductivity in Water	E100	1680145	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682721	1	4	25.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692035	2	28	7.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682720	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1688747	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1680139	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1680138	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1680135	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1680137	1	11	9.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1687940	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1688751	1	13	7.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1687955	1	8	12.5	5.0	✓
Turbidity by Nephelometry	E121	1680187	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1688752	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1680143	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1680134	1	11	9.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682721	1	4	25.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692035	2	28	7.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682720	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1688747	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1680139	1	10	10.0	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1680138	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1680135	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1680137	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1688751	1	13	7.6	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
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.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	“Hardness (as CaCO3), dissolved” is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. “Total Hardness” refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	“Hardness (as CaCO3), from total Ca/Mg” is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. “Total Hardness” refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Vancouver	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).

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
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401626**	Page	: 1 of 17
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Jenny Musijowski	Account Manager	: Oliver Gregg
Address	: 2800, 700 - 2nd Street SW Calgary AB Canada T2P 2W2	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: 780-930-8648	Telephone	: 1 867 445 7143
Project	: CA-GLD-20137939/93000B.93603 2024 Giant Drive Points Water Sampling	Date Samples Received	: 27-Sep-2024 09:25
PO	: ----	Date Analysis Commenced	: 29-Sep-2024
C-O-C number	: GM-2024-5007	Issue Date	: 07-Oct-2024 12:06
Sampler	: ----		
Site	: Giant Mine		
Quote number	: YL23-GOLD100-003		
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*
Erin Sanchez		Vancouver Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Vancouver Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Vancouver Inorganics, Burnaby, British Columbia
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Robert Nguyen	Analyst	Vancouver Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Vancouver Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia

General Comments

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

Key :

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1680144)											
VA24C5650-001	Anonymous	pH	----	E108	0.10	pH units	7.52	7.70	2.36%	4%	----
Physical Tests (QC Lot: 1680145)											
VA24C5650-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	96.2	92.0	4.46%	10%	----
Physical Tests (QC Lot: 1680146)											
VA24C5834-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	94.3	93.4	0.968%	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	94.3	93.4	0.968%	20%	----
Physical Tests (QC Lot: 1680187)											
VA24C5662-001	Anonymous	Turbidity	----	E121	0.10	NTU	0.84	0.84	0.005	Diff <2x LOR	----
Physical Tests (QC Lot: 1687940)											
VA24C5570-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	175	171	2.60%	20%	----
Anions and Nutrients (QC Lot: 1680134)											
VA24C5650-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	0.73	0.71	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1680135)											
VA24C5650-001	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: 1680137)											
VA24C5650-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	9.87	9.66	2.15%	20%	----
Anions and Nutrients (QC Lot: 1680138)											
VA24C5834-001	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: 1680139)											
VA24C5834-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.177	0.178	0.001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1680143)											
VA24C5834-001	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: 1681179)											
YL2401620-003	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1688752)											
FJ2402942-002	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*
Organic / Inorganic Carbon (QC Lot: 1688747)											
VA24C5422-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	4.23	3.97	0.26	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1688751)											
VA24C5422-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	3.90	4.17	0.27	Diff <2x LOR	----
Total Metals (QC Lot: 1682863)											
YL2401626-001	GM-2024-5007-01	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0293	0.0288	0.0004	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00515	0.00518	0.650%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00948	0.00947	0.121%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0441	0.0435	1.36%	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	0.026	0.027	0.0007	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000112	0.0000094	0.0000018	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	65.7	66.2	0.663%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000012	0.000012	0.0000003	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00065	0.00058	0.00007	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00112	0.00114	1.46%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00160	0.00154	0.00006	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.630	0.643	1.98%	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	0.0145	0.0146	0.770%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	16.5	16.2	1.74%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.250	0.248	0.640%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00104	0.00102	2.92%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00372	0.00376	0.00004	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.102	0.081	0.020	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	9.64	9.48	1.58%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00528	0.00513	3.01%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000475	0.000469	0.000006	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	17.3	17.4	0.425%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	7.45	7.34	1.46%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.147	0.146	0.0566%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	16.2	15.9	1.86%	20%	----
		Tellurium, total	13494-80-9	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: 1682863) - continued											
YL2401626-001	GM-2024-5007-01	Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000016	0.000017	0.0000006	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	0.00122	0.00114	0.00008	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00347	0.00349	0.546%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00720	0.00747	3.72%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00373	0.00371	0.00001	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	0.00049	0.00047	0.00002	Diff <2x LOR	----
Total Metals (QC Lot: 1682866)											
YL2401626-001	GM-2024-5007-01	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00065	0.00058	0.00007	Diff <2x LOR	----
Total Metals (QC Lot: 1691826)											
FJ2402953-009	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1682720)											
YL2401620-003	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
YL2401620-003	Anonymous	Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		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	<0.010	<0.010	0	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	<0.050	<0.050	0	Diff <2x LOR	----
		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	<0.00020	<0.00020	0	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	<0.0010	<0.0010	0	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1682720) - continued											
YL2401620-003	Anonymous	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	<0.050	<0.050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	<0.050	<0.050	0	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	<0.050	<0.050	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		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	<0.000010	<0.000010	0	Diff <2x LOR	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	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: 1682721)											
YL2401620-003	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1692035)											
KS2403994-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1692036)											
YL2401626-003	GM-2024-5007-03	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1680145)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1680146)						
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: 1680187)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1687940)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1687955)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1680134)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1680135)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1680137)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1680138)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1680139)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1680143)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1681179)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1688752)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1688747)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1688751)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1688751) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1682863)						
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	MBRR
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	MBRR
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: 1682863) - 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: 1682866)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	MBRR
Total Metals (QCLot: 1691826)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1682720)						
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: 1682720) - 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: 1682721)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1692035)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1692036)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Qualifiers

Qualifier	Description
MBRR	*Initial MB for this submission had positive results for flagged analyte (data not shown). Low level samples were repeated with new QC (2nd MB results shown). High level results (>5x initial MB level) and non-detect results were reported and are defensible*

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1680144)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1680145)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	97.2	90.0	110	----
Physical Tests (QCLot: 1680146)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	118	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	105	85.0	115	----
Physical Tests (QCLot: 1680187)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1687940)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	98.7	85.0	115	----
Physical Tests (QCLot: 1687955)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1680134)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1680135)									
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: 1680137)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1680138)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1680139)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	99.4	90.0	110	----
Anions and Nutrients (QCLot: 1680143)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	99.2	85.0	115	----
Anions and Nutrients (QCLot: 1681179)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1688752)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.0	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1688747)									
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: 1688751)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	108	80.0	120	----
Total Metals (QCLot: 1682863)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	100	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	106	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	102	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	97.9	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	98.4	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	105	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	96.8	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	100	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	105	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	105	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	97.7	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	98.7	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	115	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	98.2	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	111	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.1	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	98.0	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	98.0	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	98.7	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	99.1	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1682863) - continued									
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	96.0	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	100	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	104	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	99.5	80.0	120	----
Total Metals (QCLot: 1682866)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Total Metals (QCLot: 1691826)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	88.3	80.0	120	----
Dissolved Metals (QCLot: 1682720)									
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	100	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	99.5	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	99.9	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	96.1	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	97.3	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	99.9	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	99.4	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	98.7	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	102	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	97.8	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	96.9	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	95.4	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	98.7	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	99.3	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	98.9	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	95.9	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	95.9	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	100	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1682720) - continued									
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	109	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	90.6	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	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	96.3	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	98.1	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	97.0	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	99.2	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	98.0	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	104	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	98.3	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	98.8	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	96.8	80.0	120	----
Dissolved Metals (QCLot: 1682721)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	99.6	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	98.4	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1680134)										
VA24C5834-002	Anonymous	Chloride	16887-00-6	E235.Cl	104 mg/L	100 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1680135)										
VA24C5834-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.515 mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1680137)										
VA24C5834-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	99.1 mg/L	100 mg/L	99.1	75.0	125	----
Anions and Nutrients (QCLot: 1680138)										
VA24C5834-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.56 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1680139)										
VA24C5834-002	Anonymous	Fluoride	16984-48-8	E235.F	1.03 mg/L	1 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1680143)										
VA24C5834-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.508 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1681179)										
YL2401626-001	GM-2024-5007-01	Silicate (as SiO2)	7631-86-9	E392	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1688752)										
FJ2402942-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1688747)										
VA24C5422-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.92 mg/L	5 mg/L	98.4	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1688751)										
VA24C5422-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1682863)										
YL2401626-002	GM-2024-5007-02	Aluminum, total	7429-90-5	E420	0.191 mg/L	0.2 mg/L	95.6	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0207 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	0.0392 mg/L	0.04 mg/L	98.1	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00916 mg/L	0.01 mg/L	91.6	70.0	130	----
		Boron, total	7440-42-8	E420	0.095 mg/L	0.1 mg/L	95.0	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00393 mg/L	0.004 mg/L	98.2	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00960 mg/L	0.01 mg/L	96.0	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0191 mg/L	0.02 mg/L	95.4	70.0	130	----
		Copper, total	7440-50-8	E420	0.0181 mg/L	0.02 mg/L	90.5	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: 1682863) - continued										
YL2401626-002	GM-2024-5007-02	Iron, total	7439-89-6	E420	1.88 mg/L	2 mg/L	93.8	70.0	130	----
		Lead, total	7439-92-1	E420	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0956 mg/L	0.1 mg/L	95.6	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	0.0198 mg/L	0.02 mg/L	99.1	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0378 mg/L	0.04 mg/L	94.5	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.6 mg/L	10 mg/L	106	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0399 mg/L	0.04 mg/L	99.7	70.0	130	----
		Silicon, total	7440-21-3	E420	ND mg/L	----	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00389 mg/L	0.004 mg/L	97.2	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	19.2 mg/L	20 mg/L	96.3	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0392 mg/L	0.04 mg/L	98.1	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00367 mg/L	0.004 mg/L	91.9	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Tin, total	7440-31-5	E420	0.0198 mg/L	0.02 mg/L	98.9	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	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0975 mg/L	0.1 mg/L	97.5	70.0	130	----
		Zinc, total	7440-66-6	E420	0.379 mg/L	0.4 mg/L	94.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0398 mg/L	0.04 mg/L	99.6	70.0	130	----
Total Metals (QCLot: 1682866)										
YL2401626-002	GM-2024-5007-02	Chromium, total	7440-47-3	E420.Cr-L	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
Total Metals (QCLot: 1691826)										
FJ2402953-010	Anonymous	Mercury, total	7439-97-6	E508	0.0000842 mg/L	0 mg/L	84.2	70.0	130	----
Dissolved Metals (QCLot: 1682720)										
YL2401626-001	GM-2024-5007-01	Aluminum, dissolved	7429-90-5	E421	0.189 mg/L	0.2 mg/L	94.7	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0198 mg/L	0.02 mg/L	98.8	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0369 mg/L	0.04 mg/L	92.4	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00917 mg/L	0.01 mg/L	91.7	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.090 mg/L	0.1 mg/L	90.2	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00392 mg/L	0.004 mg/L	97.9	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0101 mg/L	0.01 mg/L	101	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0384 mg/L	0.04 mg/L	96.1	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0188 mg/L	0.02 mg/L	93.9	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: 1682720) - continued										
YL2401626-001	GM-2024-5007-01	Copper, dissolved	7440-50-8	E421	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.87 mg/L	2 mg/L	93.5	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0187 mg/L	0.02 mg/L	93.4	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0883 mg/L	0.1 mg/L	88.3	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	0.0203 mg/L	0.02 mg/L	101	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0370 mg/L	0.04 mg/L	92.5	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.42 mg/L	10 mg/L	94.2	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0186 mg/L	0.02 mg/L	93.1	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0395 mg/L	0.04 mg/L	98.8	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	ND mg/L	----	ND	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00392 mg/L	0.004 mg/L	98.0	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	19.6 mg/L	20 mg/L	98.1	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0400 mg/L	0.04 mg/L	100.0	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00364 mg/L	0.004 mg/L	90.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0189 mg/L	0.02 mg/L	94.4	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0200 mg/L	0.02 mg/L	100.0	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0380 mg/L	0.04 mg/L	95.0	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	ND mg/L	----	ND	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0946 mg/L	0.1 mg/L	94.6	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.370 mg/L	0.4 mg/L	92.6	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0402 mg/L	0.04 mg/L	100	70.0	130	----
Dissolved Metals (QCLot: 1682721)										
YL2401626-001	GM-2024-5007-01	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0384 mg/L	0.04 mg/L	96.1	70.0	130	----
Dissolved Metals (QCLot: 1692035)										
KS2403994-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000982 mg/L	0 mg/L	98.2	70.0	130	----
Dissolved Metals (QCLot: 1692036)										
YL2401628-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000962 mg/L	0 mg/L	96.2	70.0	130	----

Lab Copy

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

CoC#: GM-2024-5007
Created: 26 Sep 2024

From:

WSP Canada Inc - Giant Mine	
Address: 102, 2535 - 3rd Ave S.E. Calgary, Alberta T2A 7W5	
Phone: (403) 703 6282	
Contact: Megan Hewitt Megan.Hewitt@wsp.com	

Send Samples For Analysis To:

ALS Group, Yellowknife
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
Anthony.Baron@wsp.com
emily.henkemans@wsp.com
gld.GiantMine_ALS@wsp.com
Priya.Handa@pwgsc-tpsgc.gc.ca
giantdata@rcaanc-cimac.gc.ca
Megan.Hewitt@wsp.com

Send Original Signed Lab Reports To:

WSP CANADA Inc.
Address: 102, 2535 3 Ave SE Calgary, AB, T2A 7W5
Telephone: (867) 333-9306
Fax: (403) 299-5606
Contact: Emily Henkemans
emily.henkemans@wsp.com

Send Invoice To:

WSP CANADA Inc.
Address: 102, 2535 3 Ave SE Calgary, AB, T2A 7W5
Phone: (403) 703 6282
Fax: (403) 299-5606
Attn: Megan Hewitt
Megan.Hewitt@wsp.com

FIELD SAMPLE INFORMATION — ***REQUESTED LAB SUITES (see reverse side for details)***

Fields Notes:

Samples have been field filtered and preserved

Please ensure that there is only one COC per report. Use email confirmation and results list on this COC. Requires a 5-day TAT.

Facilty Code: 5855 (GAL_EQUIS@golder.com)

Project # **CA-GLD-20137939 / 93000B.93603**
2024 Giant Drive Points Water Sampling

Quote # **YL23-GOLD100-003**

							√ = Preserved :		√	√	√	√	√	√									
							√ = Field Filtered :			√		√		√									
							√ = 1-Day Rush :																
Giant Sample Control Number	**Lab Sample ID**	**Sample Date (dd-mmm-yy)**	**Sample Time (hh:mm)**	**Matrix**	**Laboratory Comments**	**Sampler Comments**	**G = Grab or C = Composite**	**Number of Containers**	**Routine (pH, TDS, total and spec alkalinity, conductivity, turbidity, hardness, major ions, fluoride, nitrate, nitrite)**	**Low TSS**	**Low level total metals (including Cs + Rb)**	**Low level dissolved metals (including Cs + Rb)**	**Low level total mercury**	**Low level dissolved mercury**	**NH3 (total) and T. Phosphorus**	**DOC/TOC**	**Reactive Silica**							
GM-2024-5007-01		26-Sep-24	15:30	Water			G	8	√	√	√	√	√	√	√	√	√							
GM-2024-5007-02		26-Sep-24	15:40	Water			G	8	√	√	√	√	√	√	√	√	√							
GM-2024-5007-03		26-Sep-24	17:45	Water			G	8	√	√	√	√	√	√	√	√	√							

Environmental Division
Yellowknife
Work Order Reference
YL2401626
Telephone : +1 867 873 5593

Relinquished by (Sampler Signature):	Date/Time: 27 Sept 2024 9:15	Company: WSP Canada	Received by (Signature):	Company:
Relinquished by (Signature):	Date/Time: Sept 27/24 9:25	Company: ALS	Received by (Signature):	Company:
Sampler (Printed Name): Beaudette Weaves	Sample Storage Temperature prior to Shipping (deg. C):	Sample Receipt Temperature (deg. C): 7.5	**SAMPLE CONDITION (lab use only)** Samples Received in Good Condition? Yes / No (If no, provide details.)	

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401628**		
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	: 27-Sep-2024 09:30
PO	: YEL218	Date Analysis Commenced	: 27-Sep-2024
C-O-C number	: ----	Issue Date	: 07-Oct-2024 13:37
Sampler	: ----		
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

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*
Erika Vanegas	Lab Assistant	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
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
Owen Cheng		Metals, Burnaby, British Columbia
Robert Nguyen	Analyst	Metals, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	Metals, Burnaby, British Columbia

General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µS/cm	microsiemens per centimetre
CFU/100mL	colony forming units per hundred millilitres
-	no units
%	percent
meq/L	milliequivalents 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.

Qualifiers

Qualifier	Description
DLA	Detection Limit adjusted for required dilution.
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
DTMF	Dissolved concentration exceeds total for field-filtered metals sample. Metallic contaminants may have been introduced to dissolved sample during field filtration.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	SDIAND023Z2-240926	SDIAND023Z10-240926	S1857Z10-240926	SNP4321A-240926	----
				Client sampling date / time	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 19:45	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401628-001	YL2401628-002	YL2401628-003	YL2401628-004	----
					Result	Result	Result	Result	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	207	200	158	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L	13.9	<1.0	6.7	----	----
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	7.0	<1.0	3.3	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	221	200	165	----	----
Conductivity	----	E100/VA	1.0	µS/cm	738	1310	387	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	56.7	724	120	1290	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	55.8	718	121	----	----
pH	----	E108/VA	0.10	pH units	8.58	8.25	8.40	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	552	1170	258	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	1.4	<1.0	----	----
Turbidity	----	E121/VA	0.10	NTU	2.83	0.29	0.90	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.235	<0.0050	0.115	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.250 DLDS	<0.250 DLDS	<0.050	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	10.8	17.2	0.68	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.227	<0.100 DLDS	0.070	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	1.98	3.60	2.77	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	2.04	3.60	2.77	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0602	<0.0050 DLDS	<0.0010	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	8.42	8.40	10.0	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND023Z2-240926	SDIAND023Z10-240926	S1857Z10-240926	SNP4321A-240926	----
				Client sampling date / time	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 19:45	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401628-001	YL2401628-002	YL2401628-003	YL2401628-004	----
					Result	Result	Result	Result	----
Anions and Nutrients									
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	132	528	30.3	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	7.95	5.37	2.42	7.40	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	8.08	5.53	2.68	----	----
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	7.63	15.7	4.15	----	----
Cation sum	----	EC101/VA	0.10	meq/L	7.66	15.2	4.12	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	0.20	-1.62	-0.36	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0317	0.0048	0.0168	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.0198	0.00416	0.00153	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.0286	0.00264	0.109	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0141	0.0257	0.0645	----	----
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	<0.000050	<0.000050	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.820	0.042	0.070	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	0.000188	0.0000790	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	15.1	201	35.1	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000206	0.000021	0.000014	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND023Z2-240926	SDIAND023Z10-240926	S1857Z10-240926	SNP4321A-240926	----
				Client sampling date / time	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 19:45	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401628-001	YL2401628-002	YL2401628-003	YL2401628-004	----
					Result	Result	Result	Result	----
Total Metals									
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	0.00091	<0.00050	0.00083	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00091	0.00029	0.00083	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.0112	0.00711	0.00061	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00297	0.00944	0.00260	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.030	0.015	0.654	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000050	0.00105	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0115	0.0053	0.0050	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	4.40	52.5	8.18	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00825	0.00225	0.0587	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	0.0000056	<0.0000050	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.00340	0.000684	0.00130	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00256	0.0170	0.00155	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.050	<0.050	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	0.987	1.25	0.678	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00122	0.00086	0.00058	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000158	0.00119	0.000086	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	4.32	4.38	5.16	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000018	<0.000010	<0.000010	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	151	16.9	39.9	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.127	0.408	0.261	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	48.9	199	10.9	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND023Z2-240926	SDIAND023Z10-240926	S1857Z10-240926	SNP4321A-240926	----
				Client sampling date / time	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 19:45	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401628-001	YL2401628-002	YL2401628-003	YL2401628-004	----
					Result	Result	Result	Result	----
Total Metals									
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	0.000013	<0.000010	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	0.00043	<0.00010	<0.00010	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	<0.00030	0.00051	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.0210	0.00060	0.00023	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000240	0.00165	0.00148	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00362	<0.00050	0.00172	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0193	0.0192	0.0132	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	<0.00020	0.00029	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0290	0.0039	0.0038	<0.0200 DLA	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.0195	0.00407	0.00110	0.626	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.0282	0.00500 DTC	0.112	23.9	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0139	0.0262	0.0562	0.0510	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	<0.000100	<0.000100	<0.000400 DLA	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.00100 DLA	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.817	0.044	0.070	0.350	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	0.000192	<0.0000050	0.000190	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	15.2	200	34.4	354	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000203	0.000021	0.000016	0.000659	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND023Z2-240926	SDIAND023Z10-240926	S1857Z10-240926	SNP4321A-240926	----
				Client sampling date / time	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 19:45	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401628-001	YL2401628-002	YL2401628-003	YL2401628-004	----
					Result	Result	Result	Result	----
Dissolved Metals									
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	0.00078 DTMF	0.00158 DTC	<0.0100 DLA	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00037	0.00078 DTMF	0.00158 DTC	<0.00200 DLA	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.0107	0.00663	0.00014	0.0366	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00291	0.00864	<0.00020	0.00450	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.020	0.021	0.428	<0.200 DLA	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000050	0.000102	0.00331	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0110	0.0052	0.0050	0.0324	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	4.56	54.5	8.28	97.9	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00820	0.00297	0.0529	0.507	----
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	0.00320	0.000842	0.00141	0.0167	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00199	0.0178	0.00182	0.0441	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.050	<0.050	<1.00 DLA	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	0.994	1.28	0.686	12.0	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00119	0.00081	0.00049	0.00946	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000153	0.00133	0.000060	<0.00100 DLA	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	4.04	4.26	4.98	5.76	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	0.000022	<0.000010	<0.000010	<0.000200 DLA	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	149	17.4	38.5	180	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.123	0.397	0.256	4.36	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	46.1	195	10.3	284	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND023Z2-240926	SDIAND023Z10-240926	S1857Z10-240926	SNP4321A-240926	----
				Client sampling date / time	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 12:10	26-Sep-2024 19:45	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401628-001	YL2401628-002	YL2401628-003	YL2401628-004	----
					Result	Result	Result	Result	----
Dissolved Metals									
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00400 DLA	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	0.000014	<0.000010	<0.000200 DLA	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00200 DLA	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	0.00040	<0.00010	<0.00010	<0.00200 DLA	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00600 DLA	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.0208	0.00052	0.00021	<0.00200 DLA	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.000228	0.00148	0.00137	0.00566	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	0.00344	<0.00050	0.00103	<0.0100 DLA	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0048	0.0335 DTC	0.0196 DTC	0.0528	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00400 DLA	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401628**	Page	: 1 of 18
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	: 27-Sep-2024 09:30
PO	: YEL218	Issue Date	: 07-Oct-2024 13:37
C-O-C number	: ----		
Sampler	: ----		
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) S1857Z10-240926	E298	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND023Z10-240926	E298	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND023Z2-240926	E298	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE S1857Z10-240926	E235.Br-L	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SDIAND023Z10-240926	E235.Br-L	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SDIAND023Z2-240926	E235.Br-L	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE S1857Z10-240926	E235.Cl	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-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 SDIAND023Z10-240926	E235.Cl	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SDIAND023Z2-240926	E235.Cl	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE S1857Z10-240926	E235.F	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND023Z10-240926	E235.F	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND023Z2-240926	E235.F	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE S1857Z10-240926	E235.NO3-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND023Z10-240926	E235.NO3-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND023Z2-240926	E235.NO3-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE S1857Z10-240926	E235.NO2-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-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										
SDIAND023Z10-240926	E235.NO2-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SDIAND023Z2-240926	E235.NO2-L	26-Sep-2024	29-Sep-2024	3 days	3 days	✓	29-Sep-2024	3 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
S1857Z10-240926	E392	26-Sep-2024	----	----	----		30-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SDIAND023Z10-240926	E392	26-Sep-2024	----	----	----		30-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
SDIAND023Z2-240926	E392	26-Sep-2024	----	----	----		30-Sep-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
S1857Z10-240926	E235.SO4	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SDIAND023Z10-240926	E235.SO4	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
SDIAND023Z2-240926	E235.SO4	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	29-Sep-2024	28 days	3 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved)										
SNP4321A-240926	E421.Cr-L	26-Sep-2024	02-Oct-2024	180 days	5 days	✓	02-Oct-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) S1857Z10-240926	E421.Cr-L	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SDIAND023Z10-240926	E421.Cr-L	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SDIAND023Z2-240926	E421.Cr-L	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4321A-240926	E509	26-Sep-2024	05-Oct-2024	28 days	8 days	✓	05-Oct-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) S1857Z10-240926	E509	26-Sep-2024	05-Oct-2024	28 days	9 days	✓	05-Oct-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND023Z10-240926	E509	26-Sep-2024	05-Oct-2024	28 days	9 days	✓	05-Oct-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND023Z2-240926	E509	26-Sep-2024	05-Oct-2024	28 days	9 days	✓	05-Oct-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SNP4321A-240926	E421	26-Sep-2024	02-Oct-2024	180 days	5 days	✓	02-Oct-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) S1857Z10-240926	E421	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND023Z2-240926	E421	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND023Z10-240926	E421	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	7 days	✓
Microbiological Tests : Fecal Coliforms in Water by MF										
Sterile HDPE (Sodium thiosulphate) SNP4321A-240926	FC-MF	26-Sep-2024	----	----	----		27-Sep-2024	30 hrs	14 hrs	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP4321A-240926	E358-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) S1857Z10-240926	E358-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND023Z10-240926	E358-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND023Z2-240926	E358-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) S1857Z10-240926	E355-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND023Z10-240926	E355-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-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
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND023Z2-240926	E355-L	26-Sep-2024	03-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	8 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE S1857Z10-240926	E290	26-Sep-2024	29-Sep-2024	14 days	3 days	✓	30-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND023Z10-240926	E290	26-Sep-2024	29-Sep-2024	14 days	3 days	✓	30-Sep-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND023Z2-240926	E290	26-Sep-2024	29-Sep-2024	14 days	3 days	✓	30-Sep-2024	14 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE S1857Z10-240926	E100	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	30-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND023Z10-240926	E100	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	30-Sep-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND023Z2-240926	E100	26-Sep-2024	29-Sep-2024	28 days	3 days	✓	30-Sep-2024	28 days	4 days	✓
Physical Tests : pH by Meter										
HDPE S1857Z10-240926	E108	26-Sep-2024	29-Sep-2024	0.25 hrs	70 hrs	✗ EHTR-FM	30-Sep-2024	0.25 hrs	96 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SDIAND023Z10-240926	E108	26-Sep-2024	29-Sep-2024	0.25 hrs	70 hrs	✗ EHTR-FM	30-Sep-2024	0.25 hrs	96 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 SDIAND023Z2-240926	E108	26-Sep-2024	29-Sep-2024	0.25 hrs	70 hrs	✗ EHTR-FM	30-Sep-2024	0.25 hrs	96 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE S1857Z10-240926	E162-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND023Z10-240926	E162-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND023Z2-240926	E162-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] S1857Z10-240926	E160-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SDIAND023Z10-240926	E160-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SDIAND023Z2-240926	E160-L	26-Sep-2024	----	----	----		03-Oct-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE S1857Z10-240926	E121	26-Sep-2024	----	----	----		29-Sep-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SDIAND023Z10-240926	E121	26-Sep-2024	----	----	----		29-Sep-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 SDIAND023Z2-240926	E121	26-Sep-2024	----	----	----		29-Sep-2024	3 days	3 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) S1857Z10-240926	E420.Cr-L	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SDIAND023Z10-240926	E420.Cr-L	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SDIAND023Z2-240926	E420.Cr-L	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved) SDIAND023Z2-240926	E508	26-Sep-2024	06-Oct-2024	0 hrs	239 hrs	✗ UCP	06-Oct-2024	0 hrs	239 hrs	✗ UCP
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) S1857Z10-240926	E508	26-Sep-2024	04-Oct-2024	28 days	8 days	✓	04-Oct-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND023Z10-240926	E508	26-Sep-2024	04-Oct-2024	28 days	8 days	✓	04-Oct-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) S1857Z10-240926	E420	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SDIAND023Z10-240926	E420	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-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)										
SDIAND023Z2-240926	E420	26-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	6 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).

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

Quality Control Parameter Frequency Compliance

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

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1680146	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1688752	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1680143	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1680134	1	11	9.0	5.0	✓
Conductivity in Water	E100	1680145	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682770	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692036	1	8	12.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682769	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1688747	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1680139	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1680138	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1680135	1	11	9.0	5.0	✓
pH by Meter	E108	1680144	1	18	5.5	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1680137	1	11	9.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1687940	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	2	37	5.4	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1688751	1	13	7.6	5.0	✓
Turbidity by Nephelometry	E121	1680187	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1680146	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1688752	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1680143	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1680134	1	11	9.0	5.0	✓
Conductivity in Water	E100	1680145	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682770	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692036	1	8	12.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682769	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1688747	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1680139	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1680138	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1680135	1	11	9.0	5.0	✓
pH by Meter	E108	1680144	1	18	5.5	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Sulfate in Water by IC	E235.SO4	1680137	1	11	9.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1687940	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	2	37	5.4	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1688751	1	13	7.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1687955	1	8	12.5	5.0	✓
Turbidity by Nephelometry	E121	1680187	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1680146	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1688752	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1680143	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1680134	1	11	9.0	5.0	✓
Conductivity in Water	E100	1680145	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682770	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692036	1	8	12.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682769	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1688747	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1680139	1	10	10.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1680138	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1680135	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1680137	1	11	9.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1687940	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	2	37	5.4	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1688751	1	13	7.6	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1687955	1	8	12.5	5.0	✓
Turbidity by Nephelometry	E121	1680187	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1688752	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1680143	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1680134	1	11	9.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682770	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692036	1	8	12.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682769	2	20	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1688747	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1680139	1	10	10.0	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1680138	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1680135	1	11	9.0	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1680137	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	2	37	5.4	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1688751	1	13	7.6	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
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.
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).
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
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401628**	Page	: 1 of 17
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	: 27-Sep-2024 09:30
PO	: YEL218	Date Analysis Commenced	: 27-Sep-2024
C-O-C number	: ----	Issue Date	: 07-Oct-2024 13:37
Sampler	: ----		
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*
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Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Robert Nguyen	Analyst	Vancouver Metals, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	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: 1680144)											
VA24C5650-001	Anonymous	pH	----	E108	0.10	pH units	7.52	7.70	2.36%	4%	----
Physical Tests (QC Lot: 1680145)											
VA24C5650-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	96.2	92.0	4.46%	10%	----
Physical Tests (QC Lot: 1680146)											
VA24C5834-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	94.3	93.4	0.968%	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	94.3	93.4	0.968%	20%	----
Physical Tests (QC Lot: 1680187)											
VA24C5662-001	Anonymous	Turbidity	----	E121	0.10	NTU	0.84	0.84	0.005	Diff <2x LOR	----
Physical Tests (QC Lot: 1687940)											
VA24C5570-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	175	171	2.60%	20%	----
Anions and Nutrients (QC Lot: 1680134)											
VA24C5650-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	0.73	0.71	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1680135)											
VA24C5650-001	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: 1680137)											
VA24C5650-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	9.87	9.66	2.15%	20%	----
Anions and Nutrients (QC Lot: 1680138)											
VA24C5834-001	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: 1680139)											
VA24C5834-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.177	0.178	0.001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1680143)											
VA24C5834-001	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: 1681179)											
YL2401620-003	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1688752)											
FJ2402942-002	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 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: 1688747)											
VA24C5422-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	4.23	3.97	0.26	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1688751)											
VA24C5422-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	3.90	4.17	0.27	Diff <2x LOR	----
Total Metals (QC Lot: 1682863)											
YL2401626-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0293	0.0288	0.0004	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00515	0.00518	0.650%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00948	0.00947	0.121%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0441	0.0435	1.36%	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	0.026	0.027	0.0007	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000112	0.0000094	0.0000018	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	65.7	66.2	0.663%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000012	0.000012	0.0000003	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00065	0.00058	0.00007	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00112	0.00114	1.46%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00160	0.00154	0.00006	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.630	0.643	1.98%	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	0.0145	0.0146	0.770%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	16.5	16.2	1.74%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.250	0.248	0.640%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00104	0.00102	2.92%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00372	0.00376	0.00004	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.102	0.081	0.020	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	9.64	9.48	1.58%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00528	0.00513	3.01%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000475	0.000469	0.000006	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	17.3	17.4	0.425%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	7.45	7.34	1.46%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.147	0.146	0.0566%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	16.2	15.9	1.86%	20%	----
		Tellurium, total	13494-80-9	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: 1682863) - continued											
YL2401626-001	Anonymous	Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000016	0.000017	0.0000006	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	0.00122	0.00114	0.00008	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00347	0.00349	0.546%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00720	0.00747	3.72%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00373	0.00371	0.00001	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	0.00049	0.00047	0.00002	Diff <2x LOR	----
Total Metals (QC Lot: 1682866)											
YL2401626-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00065	0.00058	0.00007	Diff <2x LOR	----
Total Metals (QC Lot: 1691826)											
FJ2402953-009	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1693435)											
VA24C6570-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1682769)											
YL2401628-001	SDIAND023Z2-240926	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0290	0.0292	0.519%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.0195	0.0196	0.342%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.0282	0.0279	1.08%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0139	0.0139	0.0574%	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	0.817	0.842	2.94%	20%	----
		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	15.2	15.1	0.522%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000203	0.000206	1.48%	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	0.0107	0.0107	0.124%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00291	0.00293	0.419%	20%	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.020	0.020	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	0.0110	0.0110	0.0913%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	4.56	4.57	0.111%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00820	0.00813	0.903%	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: 1682769) - continued											
YL2401628-001	SDIAND023Z2-240926	Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00320	0.00325	1.68%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00199	0.00201	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	0.994	1.01	1.39%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00119	0.00120	0.00002	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000153	0.000176	0.000023	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	4.04	4.27	5.58%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	0.000022	0.000019	0.000003	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	149	150	1.18%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.123	0.123	0.544%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	46.1	47.7	3.42%	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	0.00040	0.00041	0.000008	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	0.0208	0.0208	0.0837%	20%	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000228	0.000230	0.988%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.00344	0.00348	0.00004	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0048	0.0046	0.0002	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: 1682770)											
YL2401628-001	SDIAND023Z2-240926	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00037	0.00037	0.000004	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1692036)											
YL2401626-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1680145)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1680146)						
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: 1680187)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1687940)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1687955)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1680134)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1680135)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1680137)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1680138)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1680139)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1680143)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1681179)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1688752)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1688747)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1688751)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1688751) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1682863)						
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	MBRR
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	MBRR
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: 1682863) - 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: 1682866)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	MBRR
Total Metals (QCLot: 1691826)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1693435)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1682769)						
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: 1682769) - 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: 1682770)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1692036)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Qualifiers

Qualifier	Description
MBRR	*Initial MB for this submission had positive results for flagged analyte (data not shown). Low level samples were repeated with new QC (2nd MB results shown). High level results (>5x initial MB level) and non-detect results were reported and are defensible*

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1680144)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1680145)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	97.2	90.0	110	----
Physical Tests (QCLot: 1680146)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	118	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	105	85.0	115	----
Physical Tests (QCLot: 1680187)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1687940)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	98.7	85.0	115	----
Physical Tests (QCLot: 1687955)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1680134)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1680135)									
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: 1680137)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1680138)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1680139)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	99.4	90.0	110	----
Anions and Nutrients (QCLot: 1680143)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	99.2	85.0	115	----
Anions and Nutrients (QCLot: 1681179)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1688752)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.0	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1688747)									
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: 1688751)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	108	80.0	120	----
Total Metals (QCLot: 1682863)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	100	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	106	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	102	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	97.9	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	98.4	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	105	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	96.8	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	100	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	105	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	105	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	97.7	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	98.7	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	115	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	98.2	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	111	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.1	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	98.0	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	98.0	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	98.7	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	99.1	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1682863) - continued									
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	96.0	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	100	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	104	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	99.5	80.0	120	----
Total Metals (QCLot: 1682866)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Total Metals (QCLot: 1691826)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	88.3	80.0	120	----
Total Metals (QCLot: 1693435)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	98.3	80.0	120	----
Dissolved Metals (QCLot: 1682769)									
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	101	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	106	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	108	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	106	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	98.0	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	102	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	106	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	104	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	97.9	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	104	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	101	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	104	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	97.3	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	107	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	101	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	102	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	99.9	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	116	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	110	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: 1682769) - continued									
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	98.9	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	94.1	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	103	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	99.9	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	98.9	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	95.8	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	99.8	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	101	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	96.8	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	97.7	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	97.6	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Dissolved Metals (QCLot: 1682770)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	98.4	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1680134)										
VA24C5834-002	Anonymous	Chloride	16887-00-6	E235.Cl	104 mg/L	100 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1680135)										
VA24C5834-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.515 mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1680137)										
VA24C5834-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	99.1 mg/L	100 mg/L	99.1	75.0	125	----
Anions and Nutrients (QCLot: 1680138)										
VA24C5834-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.56 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1680139)										
VA24C5834-002	Anonymous	Fluoride	16984-48-8	E235.F	1.03 mg/L	1 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1680143)										
VA24C5834-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.508 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1681179)										
YL2401626-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1688752)										
FJ2402942-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1688747)										
VA24C5422-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.92 mg/L	5 mg/L	98.4	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1688751)										
VA24C5422-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1682863)										
YL2401626-002	Anonymous	Aluminum, total	7429-90-5	E420	0.191 mg/L	0.2 mg/L	95.6	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0207 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	0.0392 mg/L	0.04 mg/L	98.1	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00916 mg/L	0.01 mg/L	91.6	70.0	130	----
		Boron, total	7440-42-8	E420	0.095 mg/L	0.1 mg/L	95.0	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00393 mg/L	0.004 mg/L	98.2	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00960 mg/L	0.01 mg/L	96.0	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0191 mg/L	0.02 mg/L	95.4	70.0	130	----
		Copper, total	7440-50-8	E420	0.0181 mg/L	0.02 mg/L	90.5	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: 1682863) - continued										
YL2401626-002	Anonymous	Iron, total	7439-89-6	E420	1.88 mg/L	2 mg/L	93.8	70.0	130	----
		Lead, total	7439-92-1	E420	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0956 mg/L	0.1 mg/L	95.6	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	0.0198 mg/L	0.02 mg/L	99.1	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0378 mg/L	0.04 mg/L	94.5	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.6 mg/L	10 mg/L	106	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0399 mg/L	0.04 mg/L	99.7	70.0	130	----
		Silicon, total	7440-21-3	E420	ND mg/L	----	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00389 mg/L	0.004 mg/L	97.2	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	19.2 mg/L	20 mg/L	96.3	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0392 mg/L	0.04 mg/L	98.1	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00367 mg/L	0.004 mg/L	91.9	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Tin, total	7440-31-5	E420	0.0198 mg/L	0.02 mg/L	98.9	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	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0975 mg/L	0.1 mg/L	97.5	70.0	130	----
		Zinc, total	7440-66-6	E420	0.379 mg/L	0.4 mg/L	94.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0398 mg/L	0.04 mg/L	99.6	70.0	130	----
Total Metals (QCLot: 1682866)										
YL2401626-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
Total Metals (QCLot: 1691826)										
FJ2402953-010	Anonymous	Mercury, total	7439-97-6	E508	0.0000842 mg/L	0 mg/L	84.2	70.0	130	----
Total Metals (QCLot: 1693435)										
VA24C6570-002	Anonymous	Mercury, total	7439-97-6	E508	0.0000964 mg/L	0 mg/L	96.4	70.0	130	----
Dissolved Metals (QCLot: 1682769)										
YL2401628-002	SDIAND023Z10-240926	Arsenic, dissolved	7440-38-2	E421	0.0212 mg/L	0.02 mg/L	106	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.377 mg/L	0.4 mg/L	94.3	70.0	130	----
YL2401628-002	SDIAND023Z10-240926	Aluminum, dissolved	7429-90-5	E421	0.190 mg/L	0.2 mg/L	95.2	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0396 mg/L	0.04 mg/L	98.9	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	0.097 mg/L	0.1 mg/L	96.8	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00376 mg/L	0.004 mg/L	93.9	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: 1682769) - continued										
YL2401628-002	SDIAND023Z10-240926	Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00946 mg/L	0.01 mg/L	94.6	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0186 mg/L	0.02 mg/L	93.0	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0171 mg/L	0.02 mg/L	85.6	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.86 mg/L	2 mg/L	93.2	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0178 mg/L	0.02 mg/L	89.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0198 mg/L	0.02 mg/L	99.2	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0350 mg/L	0.04 mg/L	87.4	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	10.4 mg/L	10 mg/L	104	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.61 mg/L	4 mg/L	90.2	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0195 mg/L	0.02 mg/L	97.7	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0441 mg/L	0.04 mg/L	110	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.30 mg/L	10 mg/L	93.0	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00370 mg/L	0.004 mg/L	92.6	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	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00356 mg/L	0.004 mg/L	89.1	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0196 mg/L	0.02 mg/L	98.0	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	0.0381 mg/L	0.04 mg/L	95.2	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00376 mg/L	0.004 mg/L	94.1	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0984 mg/L	0.1 mg/L	98.4	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0405 mg/L	0.04 mg/L	101	70.0	130	----
Dissolved Metals (QCLot: 1682770)										
YL2401628-002	SDIAND023Z10-240926	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
Dissolved Metals (QCLot: 1692036)										
YL2401628-001	SDIAND023Z2-240926	Mercury, dissolved	7439-97-6	E509	0.0000962 mg/L	0 mg/L	96.2	70.0	130	----

Taiga Batch No.:
241529

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.
- BC MOE accepts a hold time of 30 hours for Coliforms and Enterococcus in all water sample types.

ReportDate: Friday, October 4, 2024
Print Date: *Friday, October 4, 2024*

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

Taiga Batch No.: 241529

- CERTIFICATE OF ANALYSIS -

Client Sample ID: YL2401628-004 SNP4321A-240926 **Taiga Sample ID:** 001

Client Project:
Sample Type: Water
Received Date: 27-Sep-24
Sampling Date: 26-Sep-24
Sampling Time: 19:45
Location:
Report Status: **Final**

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Microbiology						
Coliforms, Fecal	< 1	1	CFU/100mL	27-Sep-24	TEL017	

ReportDate: Friday, October 4, 2024
Print Date: *Friday, October 4, 2024*

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

Taiga Batch No.: **241529**

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **YL2401628-004 SNP4321A-240926** **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: Friday, October 4, 2024
Print Date: ***Friday, October 4, 2024***

Environmental Division
Yellowknife
Work Order Reference
YL2401628

Telephone : +1 867 873 6591

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-cimac.gc.ca
mikayla.donovan@wsp.com
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Reuben.makohoniuk@parsons.com
rhorobin@slrconsulting.com
kkakfwi@slrconsulting.com

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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	Dissolved Nutrients	Dissolved Metals	Dissolved Mercury	
SDIAND023Z2-240926	S-DIAND-023	26-Sep-24	12:10	Water			G	8	X	X	X									
SDIAND023Z10-240926	S-DIAND-023	26-Sep-24	13:10	Water			G	8	X	X	X									
S1857Z10-240926	S-1857	26-Sep-24	16:05	Water			G	8	X	X	X									
SNP4321A-240926	SNP 43-21A	26-Sep-24	19:45	Water		HIGH ARSENIC	G	4							X		X	X	X	

Relinquished by (Sampler Signature): Keith [illegible]
Date/Time: 2024-September-27 09:00
Company: SLR Consulting

Received by (Name):
Received by (Signature)
Company: ALS
Sept 27/24 9:30

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 4.9
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	: **YL2401629**		
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	: 27-Sep-2024 09:30
PO	: YEL218	Date Analysis Commenced	: 30-Sep-2024
C-O-C number	: ----	Issue Date	: 08-Oct-2024 11:45
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

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*
Erika Vanegas	Lab Assistant	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Robert Nguyen	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*
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µS/cm	microsiemens per centimetre
-	no units
meq/L	milliequivalents per litre
%	percent

<: 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	S1956Z10-240925	S1956Z4-240925	TB-240925	----	----
				Client sampling date / time	25-Sep-2024 16:48	25-Sep-2024 15:45	25-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401629-001	YL2401629-002	YL2401629-003	----	----
					Result	Result	Result	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	282	220	<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	282	220	<1.0	----	----
Conductivity	----	E100/VA	1.0	µS/cm	665	480	<1.0	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	109	163	<0.60	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	110	165	<0.60	----	----
pH	----	E108/VA	0.10	pH units	8.06	8.01	5.09	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	461	329	<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	0.31	0.26	<0.10	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.440	0.339	<0.0050	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	<0.050	<0.050	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	0.78	1.27	<0.50	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.172	0.139	<0.020	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	1.65	1.18	<0.0050	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	1.65	1.18	<0.0051	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	12.4	10.4	<0.50	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1956Z10-240925	S1956Z4-240925	TB-240925	----	----
				Client sampling date / time	25-Sep-2024 16:48	25-Sep-2024 15:45	25-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401629-001	YL2401629-002	YL2401629-003	----	----
					Result	Result	Result	----	----
Anions and Nutrients									
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	68.6	35.3	<0.30	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	10.3	11.9	<0.50	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	9.29	11.0	<0.50	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	7.21	5.26	<0.10	----	----
Cation sum	----	EC101/VA	0.10	meq/L	7.07	5.09	<0.10	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-0.98	-1.64	0.0	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0125	0.0135	<0.0030	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00081	0.00071	<0.00010	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.0184	0.0118	<0.00010	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.141	0.0535	<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	<0.000050	<0.000050	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.593	0.423	<0.010	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	32.0	47.3	<0.050	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000191	0.000477	<0.000010	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	0.00346	0.00089	<0.00050	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00346	0.00089	<0.00010	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1956Z10-240925	S1956Z4-240925	TB-240925	----	----
				Client sampling date / time	25-Sep-2024 16:48	25-Sep-2024 15:45	25-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401629-001	YL2401629-002	YL2401629-003	----	----
					Result	Result	Result	----	----
Total Metals									
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.086	0.119	<0.010	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0199	0.0111	<0.0010	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	7.30	11.5	<0.0050	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.183	0.0783	<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	0.000257	0.00107	<0.000050	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00097	0.00076	<0.00050	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.050	<0.050	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	2.81	2.54	<0.050	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00166	0.00181	<0.00020	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000103	0.000061	<0.000050	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	6.48	5.41	<0.10	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	117	41.5	<0.050	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.281	0.427	<0.00020	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	24.9	12.8	<0.50	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1956Z10-240925	S1956Z4-240925	TB-240925	----	----
				Client sampling date / time	25-Sep-2024 16:48	25-Sep-2024 15:45	25-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401629-001	YL2401629-002	YL2401629-003	----	----
					Result	Result	Result	----	----
Total Metals									
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	0.00090	0.00025	<0.00010	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00071	0.00114	<0.00030	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00249	0.00081	<0.00010	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000330	0.000303	<0.000010	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00225	0.00216	<0.00050	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0103	0.0073	<0.0030	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00090	0.00226	<0.00020	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0111	0.0167	<0.0010	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00103	0.00092	<0.00010	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.0185	0.0128	<0.00010	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.129	0.0566	<0.00010	----	----
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	<0.000050	<0.000050	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.610	0.421	<0.010	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	32.0	46.9	<0.050	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000188	0.000449	<0.000010	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	0.00337	0.00118	<0.00050	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00337	0.00118	<0.00010	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1956Z10-240925	S1956Z4-240925	TB-240925	----	----
				Client sampling date / time	25-Sep-2024 16:48	25-Sep-2024 15:45	25-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401629-001	YL2401629-002	YL2401629-003	----	----
					Result	Result	Result	----	----
Dissolved Metals									
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.080	0.138	<0.010	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0193	0.0107	<0.0010	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	7.04	11.2	<0.0050	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.178	0.0777	<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	0.000209	0.00108	<0.000050	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00111	0.00083	<0.00050	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.050	<0.050	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	2.75	2.46	<0.050	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00167	0.00169	<0.00020	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000105	0.000056	<0.000050	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	6.02	5.07	<0.050	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	110	39.8	<0.050	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.271	0.418	<0.00020	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	23.3	11.7	<0.50	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1956Z10-240925	S1956Z4-240925	TB-240925	----	----
				Client sampling date / time	25-Sep-2024 16:48	25-Sep-2024 15:45	25-Sep-2024 00:00	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401629-001	YL2401629-002	YL2401629-003	----	----
					Result	Result	Result	----	----
Dissolved Metals									
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	0.00080	0.00024	<0.00010	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	0.00059	0.00094	<0.00030	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00248	0.00082	<0.00010	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.000333	0.000292	<0.000010	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	0.00222	0.00214	<0.00050	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0081	0.0094	<0.0010	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	0.00087	0.00219	<0.00020	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401629**	Page	: 1 of 17
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	: 27-Sep-2024 09:30
PO	: YEL218	Issue Date	: 08-Oct-2024 11:45
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

- 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) S1956Z10-240925	E298	25-Sep-2024	03-Oct-2024	28 days	8 days	✓	04-Oct-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) S1956Z4-240925	E298	25-Sep-2024	03-Oct-2024	28 days	8 days	✓	04-Oct-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (lab preserved) TB-240925	E298	25-Sep-2024	01-Oct-2024	3 days	6 days	× EHT	02-Oct-2024	28 days	1 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE S1956Z10-240925	E235.Br-L	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE S1956Z4-240925	E235.Br-L	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE TB-240925	E235.Br-L	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE S1956Z10-240925	E235.Cl	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-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 : Chloride in Water by IC										
HDPE S1956Z4-240925	E235.Cl	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TB-240925	E235.Cl	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE S1956Z10-240925	E235.F	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE S1956Z4-240925	E235.F	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TB-240925	E235.F	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE S1956Z10-240925	E235.NO3-L	25-Sep-2024	02-Oct-2024	3 days	7 days	✗ EHT	02-Oct-2024	3 days	7 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE S1956Z4-240925	E235.NO3-L	25-Sep-2024	02-Oct-2024	3 days	7 days	✗ EHT	02-Oct-2024	3 days	7 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE TB-240925	E235.NO3-L	25-Sep-2024	02-Oct-2024	3 days	7 days	✗ EHT	02-Oct-2024	3 days	7 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE S1956Z10-240925	E235.NO2-L	25-Sep-2024	02-Oct-2024	3 days	7 days	✗ EHT	02-Oct-2024	3 days	7 days	✗ EHT

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: 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 S1956Z4-240925	E235.NO2-L	25-Sep-2024	02-Oct-2024	3 days	7 days	✗ EHT	02-Oct-2024	3 days	7 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE TB-240925	E235.NO2-L	25-Sep-2024	02-Oct-2024	3 days	7 days	✗ EHT	02-Oct-2024	3 days	7 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE S1956Z10-240925	E392	25-Sep-2024	----	----	----		30-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE S1956Z4-240925	E392	25-Sep-2024	----	----	----		30-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TB-240925	E392	25-Sep-2024	----	----	----		30-Sep-2024	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE S1956Z10-240925	E235.SO4	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE S1956Z4-240925	E235.SO4	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TB-240925	E235.SO4	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) S1956Z10-240925	E421.Cr-L	25-Sep-2024	02-Oct-2024	180 days	7 days	✓	02-Oct-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) S1956Z4-240925	E421.Cr-L	25-Sep-2024	02-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TB-240925	E421.Cr-L	25-Sep-2024	02-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) S1956Z10-240925	E509	25-Sep-2024	05-Oct-2024	28 days	10 days	✓	05-Oct-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) S1956Z4-240925	E509	25-Sep-2024	05-Oct-2024	28 days	10 days	✓	05-Oct-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial - dissolved (lab preserved) TB-240925	E509	25-Sep-2024	05-Oct-2024	28 days	10 days	✓	05-Oct-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) S1956Z10-240925	E421	25-Sep-2024	02-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) S1956Z4-240925	E421	25-Sep-2024	02-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) TB-240925	E421	25-Sep-2024	02-Oct-2024	180 days	7 days	✓	02-Oct-2024	180 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) S1956Z10-240925	E358-L	25-Sep-2024	03-Oct-2024	28 days	8 days	✓	04-Oct-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
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) S1956Z4-240925	E358-L	25-Sep-2024	03-Oct-2024	28 days	8 days	✓	04-Oct-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) TB-240925	E358-L	25-Sep-2024	01-Oct-2024	3 days	6 days	✖ EHT	02-Oct-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) S1956Z10-240925	E355-L	25-Sep-2024	03-Oct-2024	28 days	8 days	✓	04-Oct-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) S1956Z4-240925	E355-L	25-Sep-2024	03-Oct-2024	28 days	8 days	✓	04-Oct-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (lab preserved) TB-240925	E355-L	25-Sep-2024	01-Oct-2024	3 days	6 days	✖ EHT	01-Oct-2024	28 days	0 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE S1956Z10-240925	E290	25-Sep-2024	02-Oct-2024	14 days	7 days	✓	02-Oct-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE S1956Z4-240925	E290	25-Sep-2024	02-Oct-2024	14 days	7 days	✓	02-Oct-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TB-240925	E290	25-Sep-2024	02-Oct-2024	14 days	7 days	✓	02-Oct-2024	14 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE S1956Z10-240925	E100	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-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
Physical Tests : Conductivity in Water										
HDPE S1956Z4-240925	E100	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE TB-240925	E100	25-Sep-2024	02-Oct-2024	28 days	7 days	✓	02-Oct-2024	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE S1956Z10-240925	E108	25-Sep-2024	02-Oct-2024	0.25 hrs	163 hrs	✗ EHTR-FM	02-Oct-2024	0.25 hrs	163 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE TB-240925	E108	25-Sep-2024	02-Oct-2024	0.25 hrs	163 hrs	✗ EHTR-FM	02-Oct-2024	0.25 hrs	163 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE S1956Z4-240925	E108	25-Sep-2024	02-Oct-2024	0.25 hrs	164 hrs	✗ EHTR-FM	02-Oct-2024	0.25 hrs	164 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE S1956Z10-240925	E162-L	25-Sep-2024	----	----	----		02-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE S1956Z4-240925	E162-L	25-Sep-2024	----	----	----		02-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE TB-240925	E162-L	25-Sep-2024	----	----	----		02-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] S1956Z10-240925	E160-L	25-Sep-2024	----	----	----		02-Oct-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 : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] S1956Z4-240925	E160-L	25-Sep-2024	----	----	----		02-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] TB-240925	E160-L	25-Sep-2024	----	----	----		02-Oct-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE S1956Z10-240925	E121	25-Sep-2024	----	----	----		02-Oct-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE S1956Z4-240925	E121	25-Sep-2024	----	----	----		02-Oct-2024	3 days	7 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE TB-240925	E121	25-Sep-2024	----	----	----		02-Oct-2024	3 days	7 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) S1956Z10-240925	E420.Cr-L	25-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) S1956Z4-240925	E420.Cr-L	25-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TB-240925	E420.Cr-L	25-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) S1956Z10-240925	E508	25-Sep-2024	04-Oct-2024	28 days	9 days	✓	04-Oct-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
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) S1956Z4-240925	E508	25-Sep-2024	04-Oct-2024	28 days	9 days	✓	04-Oct-2024	28 days	9 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) TB-240925	E508	25-Sep-2024	04-Oct-2024	28 days	9 days	✓	04-Oct-2024	28 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) S1956Z10-240925	E420	25-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) S1956Z4-240925	E420	25-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TB-240925	E420	25-Sep-2024	02-Oct-2024	180 days	6 days	✓	02-Oct-2024	180 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	1684850	1	13	7.6	5.0	✓
Ammonia by Fluorescence	E298	1684236	2	37	5.4	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1684854	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1684853	1	15	6.6	5.0	✓
Conductivity in Water	E100	1684851	1	13	7.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682770	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692036	1	8	12.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682769	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1684237	2	31	6.4	5.0	✓
Fluoride in Water by IC	E235.F	1684852	1	15	6.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1684855	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1684856	1	18	5.5	5.0	✓
pH by Meter	E108	1684849	1	13	7.6	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1684857	1	15	6.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1685461	1	3	33.3	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1684234	2	21	9.5	5.0	✓
Turbidity by Nephelometry	E121	1686729	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1684850	1	13	7.6	5.0	✓
Ammonia by Fluorescence	E298	1684236	2	37	5.4	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1684854	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1684853	1	15	6.6	5.0	✓
Conductivity in Water	E100	1684851	1	13	7.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682770	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692036	1	8	12.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682769	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1684237	2	31	6.4	5.0	✓
Fluoride in Water by IC	E235.F	1684852	1	15	6.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1684855	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1684856	1	18	5.5	5.0	✓
pH by Meter	E108	1684849	1	13	7.6	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Sulfate in Water by IC	E235.SO4	1684857	1	15	6.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1685461	1	3	33.3	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1684234	2	21	9.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1685086	1	15	6.6	5.0	✓
Turbidity by Nephelometry	E121	1686729	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1684850	1	13	7.6	5.0	✓
Ammonia by Fluorescence	E298	1684236	2	37	5.4	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1684854	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1684853	1	15	6.6	5.0	✓
Conductivity in Water	E100	1684851	1	13	7.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682770	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692036	1	8	12.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682769	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1684237	2	31	6.4	5.0	✓
Fluoride in Water by IC	E235.F	1684852	1	15	6.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1684855	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1684856	1	18	5.5	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1684857	1	15	6.6	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1685461	1	3	33.3	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1684234	2	21	9.5	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1685086	1	15	6.6	5.0	✓
Turbidity by Nephelometry	E121	1686729	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1684236	2	37	5.4	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1684854	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1684853	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1682770	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1692036	1	8	12.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1682769	2	20	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1684237	2	31	6.4	5.0	✓
Fluoride in Water by IC	E235.F	1684852	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*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1684855	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1684856	1	18	5.5	5.0	✓
Reactive Silica by Colourimetry	E392	1681179	1	10	10.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1684857	1	15	6.6	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1682866	1	9	11.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1691826	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1682863	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1684234	2	21	9.5	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.
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).

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

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401629**	Page	: 1 of 18
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	: 27-Sep-2024 09:30
PO	: YEL218	Date Analysis Commenced	: 30-Sep-2024
C-O-C number	: ----	Issue Date	: 08-Oct-2024 11:45
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*
Erika Vanegas	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Vancouver Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Robert Nguyen	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: 1684849)											
VA24C5741-001	Anonymous	pH	----	E108	0.10	pH units	8.20	8.19	0.122%	4%	----
Physical Tests (QC Lot: 1684850)											
VA24C5741-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	106	107	0.474%	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	106	107	0.474%	20%	----
Physical Tests (QC Lot: 1684851)											
VA24C5741-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	307	308	0.325%	10%	----
Physical Tests (QC Lot: 1685461)											
YL2401629-001	S1956Z10-240925	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	461	466	0.971%	20%	----
Physical Tests (QC Lot: 1686729)											
VA24C5925-004	Anonymous	Turbidity	----	E121	0.10	NTU	0.90	0.93	0.03	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1681179)											
YL2401620-003	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1684236)											
VA24C5002-001	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: 1684852)											
VA24C5271-009	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.023	0.021	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1684853)											
VA24C5271-009	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1684854)											
VA24C5271-009	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: 1684855)											
VA24C5271-009	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: 1684856)											
VA24C5271-009	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: 1684857)											
VA24C5271-009	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	176	175	0.0441%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1688752)											
FJ2402942-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1684234)											
VA24C5002-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.49	1.61	0.12	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1684237)											
VA24C5111-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	6.45	6.35	1.53%	20%	----
Organic / Inorganic Carbon (QC Lot: 1688747)											
VA24C5422-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	4.23	3.97	0.26	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1688751)											
VA24C5422-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	3.90	4.17	0.27	Diff <2x LOR	----
Total Metals (QC Lot: 1682863)											
YL2401626-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0293	0.0288	0.0004	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00515	0.00518	0.650%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00948	0.00947	0.121%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0441	0.0435	1.36%	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	0.026	0.027	0.0007	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000112	0.0000094	0.0000018	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	65.7	66.2	0.663%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000012	0.000012	0.0000003	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00065	0.00058	0.00007	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00112	0.00114	1.46%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00160	0.00154	0.00006	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.630	0.643	1.98%	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	0.0145	0.0146	0.770%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	16.5	16.2	1.74%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.250	0.248	0.640%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00104	0.00102	2.92%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00372	0.00376	0.00004	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.102	0.081	0.020	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	9.64	9.48	1.58%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00528	0.00513	3.01%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000475	0.000469	0.000006	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: 1682863) - continued											
YL2401626-001	Anonymous	Silicon, total	7440-21-3	E420	0.10	mg/L	17.3	17.4	0.425%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	7.45	7.34	1.46%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.147	0.146	0.0566%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	16.2	15.9	1.86%	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	0.000016	0.000017	0.0000006	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	0.00122	0.00114	0.00008	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00347	0.00349	0.546%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00720	0.00747	3.72%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00373	0.00371	0.00001	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	0.00049	0.00047	0.00002	Diff <2x LOR	----
Total Metals (QC Lot: 1682866)											
YL2401626-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00065	0.00058	0.00007	Diff <2x LOR	----
Total Metals (QC Lot: 1691826)											
FJ2402953-009	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1682769)											
YL2401628-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0290	0.0292	0.519%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.0195	0.0196	0.342%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.0282	0.0279	1.08%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0139	0.0139	0.0574%	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	0.817	0.842	2.94%	20%	----
		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	15.2	15.1	0.522%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000203	0.000206	1.48%	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	0.0107	0.0107	0.124%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00291	0.00293	0.419%	20%	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.020	0.020	0.0002	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: 1682769) - continued											
YL2401628-001	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	0.0110	0.0110	0.0913%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	4.56	4.57	0.111%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00820	0.00813	0.903%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00320	0.00325	1.68%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00199	0.00201	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	0.994	1.01	1.39%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00119	0.00120	0.00002	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000153	0.000176	0.000023	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	4.04	4.27	5.58%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	0.000022	0.000019	0.000003	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	149	150	1.18%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.123	0.123	0.544%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	46.1	47.7	3.42%	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	0.00040	0.00041	0.000008	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	0.0208	0.0208	0.0837%	20%	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000228	0.000230	0.988%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.00344	0.00348	0.00004	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0048	0.0046	0.0002	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: 1682770)											
YL2401628-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00037	0.00037	0.000004	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1692036)											
YL2401626-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1684850)						
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: 1684851)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1685086)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1685461)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1686729)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1681179)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1684236)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1684852)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1684853)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1684854)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1684855)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1684856)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1684857)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1688752)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1684234)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1684234) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1684237)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1688747)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1688751)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1682863)						
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	MBRR
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	MBRR
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: 1682863) - 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: 1682866)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	MBRR
Total Metals (QCLot: 1691826)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1682769)						
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: 1682769) - 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: 1682770)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1692036)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Qualifiers

Qualifier	Description
MBRR	Initial MB for this submission had positive results for flagged analyte (data not shown). Low level samples were repeated with new QC (2nd MB results shown). High level results (>5x initial MB level) and non-detect results were reported and are defensible

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1684849)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1684850)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	116	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1684851)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	106	90.0	110	----
Physical Tests (QCLot: 1685086)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	86.0	85.0	115	----
Physical Tests (QCLot: 1685461)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	106	85.0	115	----
Physical Tests (QCLot: 1686729)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Anions and Nutrients (QCLot: 1681179)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1684236)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1684852)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1684853)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1684854)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	111	85.0	115	----
Anions and Nutrients (QCLot: 1684855)									
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: 1684856)									
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: 1684857)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1688752)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 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: 1684234)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1684237)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	105	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1688747)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	96.9	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1688751)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	108	80.0	120	----
Total Metals (QCLot: 1682863)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	100	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	106	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	102	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	97.9	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	98.4	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	105	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	96.8	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	100	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	105	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	105	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	97.7	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	98.7	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	115	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	98.2	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	111	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.1	80.0	120	----
Sodium, total	7440-23-5	E420	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
Total Metals (QCLot: 1682863) - continued									
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	98.0	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	98.0	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	98.7	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	99.1	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100	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	96.0	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	100	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	104	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	99.5	80.0	120	----
Total Metals (QCLot: 1682866)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Total Metals (QCLot: 1691826)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	88.3	80.0	120	----
Dissolved Metals (QCLot: 1682769)									
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	101	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	106	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	108	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	106	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	98.0	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	102	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	106	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	104	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	97.9	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	104	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	101	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	104	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	97.3	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	107	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	101	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 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: 1682769) - continued									
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	99.9	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	116	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	110	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	98.9	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	94.1	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	103	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	99.9	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	98.9	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	95.8	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	99.8	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	101	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	96.8	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	97.7	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	97.6	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Dissolved Metals (QCLot: 1682770)									
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	98.4	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1681179)										
YL2401626-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1684236)										
VA24C5111-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1684852)										
VA24C5271-010	Anonymous	Fluoride	16984-48-8	E235.F	1.09 mg/L	1 mg/L	109	75.0	125	----
Anions and Nutrients (QCLot: 1684853)										
VA24C5271-010	Anonymous	Chloride	16887-00-6	E235.Cl	106 mg/L	100 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 1684854)										
VA24C5271-010	Anonymous	Bromide	24959-67-9	E235.Br-L	0.580 mg/L	0.5 mg/L	116	75.0	125	----
Anions and Nutrients (QCLot: 1684855)										
VA24C5271-010	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.63 mg/L	2.5 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 1684856)										
VA24C5271-010	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.515 mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1684857)										
VA24C5271-010	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1688752)										
FJ2402942-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1684234)										
VA24C5135-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	4.87 mg/L	5 mg/L	97.4	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1684237)										
VA24C5111-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1688747)										
VA24C5422-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.92 mg/L	5 mg/L	98.4	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1688751)										
VA24C5422-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1682863)										
YL2401626-002	Anonymous	Aluminum, total	7429-90-5	E420	0.191 mg/L	0.2 mg/L	95.6	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0207 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	0.0392 mg/L	0.04 mg/L	98.1	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: 1682863) - continued										
YL2401626-002	Anonymous	Bismuth, total	7440-69-9	E420	0.00916 mg/L	0.01 mg/L	91.6	70.0	130	----
		Boron, total	7440-42-8	E420	0.095 mg/L	0.1 mg/L	95.0	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00393 mg/L	0.004 mg/L	98.2	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00960 mg/L	0.01 mg/L	96.0	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0191 mg/L	0.02 mg/L	95.4	70.0	130	----
		Copper, total	7440-50-8	E420	0.0181 mg/L	0.02 mg/L	90.5	70.0	130	----
		Iron, total	7439-89-6	E420	1.88 mg/L	2 mg/L	93.8	70.0	130	----
		Lead, total	7439-92-1	E420	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0956 mg/L	0.1 mg/L	95.6	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	0.0198 mg/L	0.02 mg/L	99.1	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0378 mg/L	0.04 mg/L	94.5	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.6 mg/L	10 mg/L	106	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0399 mg/L	0.04 mg/L	99.7	70.0	130	----
		Silicon, total	7440-21-3	E420	ND mg/L	----	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00389 mg/L	0.004 mg/L	97.2	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	19.2 mg/L	20 mg/L	96.3	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0392 mg/L	0.04 mg/L	98.1	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00367 mg/L	0.004 mg/L	91.9	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Tin, total	7440-31-5	E420	0.0198 mg/L	0.02 mg/L	98.9	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	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0975 mg/L	0.1 mg/L	97.5	70.0	130	----
		Zinc, total	7440-66-6	E420	0.379 mg/L	0.4 mg/L	94.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0398 mg/L	0.04 mg/L	99.6	70.0	130	----
Total Metals (QCLot: 1682866)										
YL2401626-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
Total Metals (QCLot: 1691826)										
FJ2402953-010	Anonymous	Mercury, total	7439-97-6	E508	0.0000842 mg/L	0 mg/L	84.2	70.0	130	----
Dissolved Metals (QCLot: 1682769)										
YL2401628-002	Anonymous	Arsenic, dissolved	7440-38-2	E421	0.0212 mg/L	0.02 mg/L	106	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.377 mg/L	0.4 mg/L	94.3	70.0	130	----
YL2401628-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.190 mg/L	0.2 mg/L	95.2	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0190 mg/L	0.02 mg/L	95.2	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: 1682769) - continued										
YL2401628-002	Anonymous	Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0396 mg/L	0.04 mg/L	98.9	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	0.097 mg/L	0.1 mg/L	96.8	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00376 mg/L	0.004 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	0.00946 mg/L	0.01 mg/L	94.6	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0186 mg/L	0.02 mg/L	93.0	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0171 mg/L	0.02 mg/L	85.6	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.86 mg/L	2 mg/L	93.2	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0178 mg/L	0.02 mg/L	89.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0198 mg/L	0.02 mg/L	99.2	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0350 mg/L	0.04 mg/L	87.4	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	10.4 mg/L	10 mg/L	104	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.61 mg/L	4 mg/L	90.2	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0195 mg/L	0.02 mg/L	97.7	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0441 mg/L	0.04 mg/L	110	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.30 mg/L	10 mg/L	93.0	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00370 mg/L	0.004 mg/L	92.6	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	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00356 mg/L	0.004 mg/L	89.1	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0196 mg/L	0.02 mg/L	98.0	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	0.0381 mg/L	0.04 mg/L	95.2	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00376 mg/L	0.004 mg/L	94.1	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0984 mg/L	0.1 mg/L	98.4	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0405 mg/L	0.04 mg/L	101	70.0	130	----
Dissolved Metals (QCLot: 1682770)										
YL2401628-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
Dissolved Metals (QCLot: 1692036)										
YL2401628-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000962 mg/L	0 mg/L	96.2	70.0	130	----

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-cimac.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)

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	Dissolved Metals
√ = Preserved:									As required - Marked on bottle									
√ = Field Filtered:									As required - Marked on bottle									
√ = Standard TAT:									√	√	√	√	√	√	√	√	√	
√ = 1-Day Rush:																		
S1956Z10-240925	S-1956	25-Sep-24	16:48	Water			G	8	X	X	X							
S1956Z4-240925	S-1956	25-Sep-24	15:45	Water			G	8	X	X	X							
TB-240925	Trip Blank	25-Sep-24	-	Water			G	8	X	X	X							

Relinquished by (Sampler Signature): [signature] **Date/Time:** 2024-September-27 09:00 **Company: SLR Consulting**

Received by (Name): **Received by (Signature)** [signature] **Company: ALS** Sept 27/24 9:30

Sample Receipt Temperature (deg. C): 4.9

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
YL2401629

Telephone : + 1 867 873 5593

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **YL2401638**		
Amendment	: **1**		
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	: 01-Oct-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 04-Oct-2024
C-O-C number	: ----	Issue Date	: 11-Oct-2024 08:26
Sampler	: ----		
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

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
Kate Dimitrova	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia

General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µS/cm	microsiemens per centimetre
-	no units
meq/L	milliequivalents per litre
%	percent

<: 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
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	S1955Z2-240927	S1955Z6-240927	S2224Z3-240927	S2224Z9-240927	----
				Client sampling date / time	27-Sep-2024 11:59	27-Sep-2024 12:59	27-Sep-2024 16:27	27-Sep-2024 17:30	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401638-001	YL2401638-002	YL2401638-003	YL2401638-004	----
					Result	Result	Result	Result	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	146	384	292	305	----
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	146	384	292	305	----
Conductivity	----	E100/VA	1.0	µS/cm	480	680	724	637	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	60.5	266	225	344	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	64.2	280	230	368	----
pH	----	E108/VA	0.10	pH units	8.27	8.18	8.26	8.19	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	346	497	533	470	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	1.0	<1.0	<1.0	<1.0	----
Turbidity	----	E121/VA	0.10	NTU	0.13	0.85	0.31	2.15	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.303	0.942	0.274	0.342	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	0.173	<0.250 DLDS	<0.250 DLDS	<0.250 DLDS	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	17.0	<2.50 DLDS	16.0	<2.50 DLDS	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.428	0.118	0.181	<0.100 DLDS	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	2.28	2.46	2.02	3.03	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	2.28	2.46	2.02	3.03	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	<0.0050 DLDS	<0.0050 DLDS	<0.0050 DLDS	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	6.17	13.4	11.6	14.4	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1955Z2-240927	S1955Z6-240927	S2224Z3-240927	S2224Z9-240927	----
				Client sampling date / time	27-Sep-2024 11:59	27-Sep-2024 12:59	27-Sep-2024 16:27	27-Sep-2024 17:30	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401638-001	YL2401638-002	YL2401638-003	YL2401638-004	----
					Result	Result	Result	Result	----
Anions and Nutrients									
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	91.6	45.3	119	89.3	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	1.83	5.38	8.02	4.21	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	1.74	5.22	7.97	4.11	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	5.49	8.80	8.92	8.17	----
Cation sum	----	EC101/VA	0.10	meq/L	5.33	8.73	9.05	8.12	----
Ion balance (APHA)	----	EC101/VA	0.01	%	-1.48	-0.40	0.72	-0.31	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0043	0.0080	0.0085	0.0040	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00040	0.00056	0.00030	0.00011	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00283	0.199	0.0791	0.00625	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0238	0.252	0.122	0.0657	----
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	<0.000050	<0.000050	<0.000050	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	1.02	0.336	0.494	0.220	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	11.0	58.7	51.3	83.8	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000065	0.000104	0.000153	0.000094	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00050	0.00562	0.00310	0.00103	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	0.00050	0.00562	0.00310	0.00103	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1955Z2-240927	S1955Z6-240927	S2224Z3-240927	S2224Z9-240927	----
				Client sampling date / time	27-Sep-2024 11:59	27-Sep-2024 12:59	27-Sep-2024 16:27	27-Sep-2024 17:30	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401638-001	YL2401638-002	YL2401638-003	YL2401638-004	----
					Result	Result	Result	Result	----
Total Metals									
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00020	0.00014	0.0110	<0.00010	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.030	0.103	0.070	0.382	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0271	0.0296	0.0222	0.0152	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	8.92	32.5	24.8	38.5	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00502	0.146	0.0302	0.102	----
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	0.00186	0.000871	0.000516	0.00134	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	0.00394	0.00110	0.00067	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	0.536	<0.050	<0.050	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	1.31	4.29	2.14	3.42	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00103	0.00210	0.00228	0.00188	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000050	0.000058	0.000094	<0.000050	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	2.93	6.71	5.64	6.91	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	94.4	75.1	98.7	25.9	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.357	0.906	1.10	1.29	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	33.2	18.4	45.6	33.3	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	0.00024	0.00027	<0.00020	0.00023	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1955Z2-240927	S1955Z6-240927	S2224Z3-240927	S2224Z9-240927	----
				Client sampling date / time	27-Sep-2024 11:59	27-Sep-2024 12:59	27-Sep-2024 16:27	27-Sep-2024 17:30	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401638-001	YL2401638-002	YL2401638-003	YL2401638-004	----
					Result	Result	Result	Result	----
Total Metals									
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	0.00014	<0.00010	<0.00010	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	0.00031	0.00046	<0.00030	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00269	0.00670	0.00370	0.00163	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000020	0.00253	0.00233	0.00347	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	0.00127	0.00111	<0.00050	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0044	0.0677	0.0129	0.0056	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	0.00026	0.00028	<0.00020	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0030	0.0047	0.0048	0.0035	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00038	0.00041	0.00028	0.00010	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.00585 DTC	0.152	0.0778	0.00843	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0247	0.259	0.134	0.0720	----
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	<0.000050	<0.000050	<0.000050	<0.000050	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.909	0.310	0.468	0.194	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000087	<0.0000050	<0.0000050	<0.0000050	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	10.2	53.0	47.8	76.7	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000062	0.000089	0.000149	0.000085	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	0.00094 DTC	0.00174	0.00197	0.00153 DTC	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	0.00094 DTC	0.00174	0.00197	0.00153 DTC	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1955Z2-240927	S1955Z6-240927	S2224Z3-240927	S2224Z9-240927	----
				Client sampling date / time	27-Sep-2024 11:59	27-Sep-2024 12:59	27-Sep-2024 16:27	27-Sep-2024 17:30	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401638-001	YL2401638-002	YL2401638-003	YL2401638-004	----
					Result	Result	Result	Result	----
Dissolved Metals									
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00019	<0.00010	0.0106	0.00013	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.036	0.073	0.047	0.390	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0263	0.0297	0.0207	0.0148	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	8.51	32.4	25.6	37.1	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00483	0.139	0.0321	0.104	----
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	0.00190	0.000334	0.000345	0.00120	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00083	0.00109	<0.00050	0.00156	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	0.522	<0.050	<0.050	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	1.18	4.00	2.26	3.29	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00103	0.00215	0.00242	0.00198	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	<0.000050	0.000086	0.000113	<0.000050	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	3.02	7.01	5.47	7.08	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	93.5	74.5	103	25.7	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.337	0.860	1.08	1.23	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	32.3	17.5	42.7	30.4	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	S1955Z2-240927	S1955Z6-240927	S2224Z3-240927	S2224Z9-240927	----
				Client sampling date / time	27-Sep-2024 11:59	27-Sep-2024 12:59	27-Sep-2024 16:27	27-Sep-2024 17:30	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401638-001	YL2401638-002	YL2401638-003	YL2401638-004	----
					Result	Result	Result	Result	----
Dissolved Metals									
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	0.00011	<0.00010	<0.00010	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	<0.00030	0.00031	<0.00030	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00257	0.00654	0.00386	0.00160	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.000019	0.00236	0.00248	0.00326	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	0.00116	0.00092	<0.00050	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0090 DTC	0.0131	0.0049	0.0092	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	0.00025	0.00028	<0.00020	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401638**	Page	: 1 of 20
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	: 01-Oct-2024 09:01
PO	: YEL218	Issue Date	: 11-Oct-2024 08:27
C-O-C number	: ----		
Sampler	: ----		
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) S1955Z6-240927	E298	27-Sep-2024	05-Oct-2024	28 days	7 days	✓	06-Oct-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) S2224Z3-240927	E298	27-Sep-2024	05-Oct-2024	28 days	7 days	✓	06-Oct-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) S2224Z9-240927	E298	27-Sep-2024	05-Oct-2024	28 days	7 days	✓	06-Oct-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) S1955Z2-240927	E298	27-Sep-2024	05-Oct-2024	28 days	8 days	✓	06-Oct-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE S1955Z2-240927	E235.Br-L	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE S1955Z6-240927	E235.Br-L	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE S2224Z3-240927	E235.Br-L	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-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 : Bromide in Water by IC (Low Level)										
HDPE S2224Z9-240927	E235.Br-L	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE S1955Z2-240927	E235.Cl	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE S1955Z6-240927	E235.Cl	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE S2224Z3-240927	E235.Cl	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE S2224Z9-240927	E235.Cl	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE S1955Z2-240927	E235.F	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE S1955Z6-240927	E235.F	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE S2224Z3-240927	E235.F	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE S2224Z9-240927	E235.F	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-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 : Nitrate in Water by IC (Low Level)										
HDPE S1955Z2-240927	E235.NO3-L	27-Sep-2024	04-Oct-2024	3 days	7 days	✗ EHTR	04-Oct-2024	3 days	7 days	✗ EHTR
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE S1955Z6-240927	E235.NO3-L	27-Sep-2024	04-Oct-2024	3 days	7 days	✗ EHTR	04-Oct-2024	3 days	7 days	✗ EHTR
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE S2224Z3-240927	E235.NO3-L	27-Sep-2024	04-Oct-2024	3 days	7 days	✗ EHTR	04-Oct-2024	3 days	7 days	✗ EHTR
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE S2224Z9-240927	E235.NO3-L	27-Sep-2024	04-Oct-2024	3 days	7 days	✗ EHTR	04-Oct-2024	3 days	7 days	✗ EHTR
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE S1955Z2-240927	E235.NO2-L	27-Sep-2024	04-Oct-2024	3 days	7 days	✗ EHTR	04-Oct-2024	3 days	7 days	✗ EHTR
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE S1955Z6-240927	E235.NO2-L	27-Sep-2024	04-Oct-2024	3 days	7 days	✗ EHTR	04-Oct-2024	3 days	7 days	✗ EHTR
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE S2224Z3-240927	E235.NO2-L	27-Sep-2024	04-Oct-2024	3 days	7 days	✗ EHTR	04-Oct-2024	3 days	7 days	✗ EHTR
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE S2224Z9-240927	E235.NO2-L	27-Sep-2024	04-Oct-2024	3 days	7 days	✗ EHTR	04-Oct-2024	3 days	7 days	✗ EHTR
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE S1955Z2-240927	E392	27-Sep-2024	----	----	----		04-Oct-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 S1955Z6-240927	E392	27-Sep-2024	----	----	----		04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE S2224Z3-240927	E392	27-Sep-2024	----	----	----		04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE S2224Z9-240927	E392	27-Sep-2024	----	----	----		04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE S1955Z2-240927	E235.SO4	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE S1955Z6-240927	E235.SO4	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE S2224Z3-240927	E235.SO4	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE S2224Z9-240927	E235.SO4	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) S1955Z2-240927	E421.Cr-L	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	07-Oct-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) S1955Z6-240927	E421.Cr-L	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	07-Oct-2024	180 days	10 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) S2224Z3-240927	E421.Cr-L	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	07-Oct-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) S2224Z9-240927	E421.Cr-L	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	07-Oct-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) S1955Z2-240927	E509	27-Sep-2024	07-Oct-2024	28 days	10 days	✓	07-Oct-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) S1955Z6-240927	E509	27-Sep-2024	07-Oct-2024	28 days	10 days	✓	07-Oct-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) S2224Z3-240927	E509	27-Sep-2024	07-Oct-2024	28 days	10 days	✓	07-Oct-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) S2224Z9-240927	E509	27-Sep-2024	07-Oct-2024	28 days	10 days	✓	07-Oct-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) S1955Z2-240927	E421	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	07-Oct-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) S1955Z6-240927	E421	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	07-Oct-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) S2224Z3-240927	E421	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	07-Oct-2024	180 days	10 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation: Preparation Date	Holding Times: Rec	Holding Times: Actual	Eval	Analysis: Analysis Date	Holding Times: Rec	Holding Times: Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) S2224Z9-240927	E421	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	07-Oct-2024	180 days	10 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) S1955Z6-240927	E358-L	27-Sep-2024	05-Oct-2024	28 days	7 days	✓	06-Oct-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) S2224Z3-240927	E358-L	27-Sep-2024	05-Oct-2024	28 days	7 days	✓	06-Oct-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) S2224Z9-240927	E358-L	27-Sep-2024	05-Oct-2024	28 days	7 days	✓	06-Oct-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) S1955Z2-240927	E358-L	27-Sep-2024	05-Oct-2024	28 days	8 days	✓	06-Oct-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) S1955Z6-240927	E355-L	27-Sep-2024	05-Oct-2024	28 days	7 days	✓	06-Oct-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) S2224Z3-240927	E355-L	27-Sep-2024	05-Oct-2024	28 days	7 days	✓	06-Oct-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) S2224Z9-240927	E355-L	27-Sep-2024	05-Oct-2024	28 days	7 days	✓	06-Oct-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) S1955Z2-240927	E355-L	27-Sep-2024	05-Oct-2024	28 days	8 days	✓	06-Oct-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
Physical Tests : Alkalinity Species by Titration										
HDPE S1955Z2-240927	E290	27-Sep-2024	04-Oct-2024	14 days	7 days	✓	04-Oct-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE S1955Z6-240927	E290	27-Sep-2024	04-Oct-2024	14 days	7 days	✓	04-Oct-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE S2224Z3-240927	E290	27-Sep-2024	04-Oct-2024	14 days	7 days	✓	04-Oct-2024	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE S2224Z9-240927	E290	27-Sep-2024	04-Oct-2024	14 days	7 days	✓	04-Oct-2024	14 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE S1955Z2-240927	E100	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE S1955Z6-240927	E100	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE S2224Z3-240927	E100	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE S2224Z9-240927	E100	27-Sep-2024	04-Oct-2024	28 days	7 days	✓	04-Oct-2024	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE S2224Z9-240927	E108	27-Sep-2024	04-Oct-2024	0.25 hrs	161 hrs	✗ EHTR-FM	04-Oct-2024	0.25 hrs	162 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 S2224Z3-240927	E108	27-Sep-2024	04-Oct-2024	0.25 hrs	162 hrs	✗ EHTR-FM	04-Oct-2024	0.25 hrs	163 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE S1955Z6-240927	E108	27-Sep-2024	04-Oct-2024	0.25 hrs	165 hrs	✗ EHTR-FM	04-Oct-2024	0.25 hrs	166 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE S1955Z2-240927	E108	27-Sep-2024	04-Oct-2024	0.25 hrs	166 hrs	✗ EHTR-FM	04-Oct-2024	0.25 hrs	167 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE S1955Z2-240927	E162-L	27-Sep-2024	----	----	----		04-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE S1955Z6-240927	E162-L	27-Sep-2024	----	----	----		04-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE S2224Z3-240927	E162-L	27-Sep-2024	----	----	----		04-Oct-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE S2224Z9-240927	E162-L	27-Sep-2024	----	----	----		04-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] S1955Z2-240927	E160-L	27-Sep-2024	----	----	----		04-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] S1955Z6-240927	E160-L	27-Sep-2024	----	----	----		04-Oct-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] S2224Z3-240927	E160-L	27-Sep-2024	----	----	----		04-Oct-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] S2224Z9-240927	E160-L	27-Sep-2024	----	----	----		04-Oct-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE S1955Z2-240927	E121	27-Sep-2024	----	----	----		04-Oct-2024	3 days	7 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE S1955Z6-240927	E121	27-Sep-2024	----	----	----		04-Oct-2024	3 days	7 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE S2224Z3-240927	E121	27-Sep-2024	----	----	----		04-Oct-2024	3 days	7 days	× EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE S2224Z9-240927	E121	27-Sep-2024	----	----	----		04-Oct-2024	3 days	7 days	× EHTR
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) S1955Z6-240927	E420.Cr-L	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	05-Oct-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) S2224Z3-240927	E420.Cr-L	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	05-Oct-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) S1955Z2-240927	E420.Cr-L	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	06-Oct-2024	180 days	9 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) S2224Z9-240927	E420.Cr-L	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	06-Oct-2024	180 days	9 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) S2224Z3-240927	E508	27-Sep-2024	08-Oct-2024	28 days	10 days	✓	08-Oct-2024	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) S2224Z9-240927	E508	27-Sep-2024	08-Oct-2024	28 days	10 days	✓	08-Oct-2024	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) S1955Z2-240927	E508	27-Sep-2024	08-Oct-2024	28 days	11 days	✓	08-Oct-2024	28 days	11 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) S1955Z6-240927	E508	27-Sep-2024	08-Oct-2024	28 days	11 days	✓	08-Oct-2024	28 days	11 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) S1955Z2-240927	E420	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	06-Oct-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) S1955Z6-240927	E420	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	06-Oct-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) S2224Z3-240927	E420	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	06-Oct-2024	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) S2224Z9-240927	E420	27-Sep-2024	04-Oct-2024	180 days	7 days	✓	06-Oct-2024	180 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.

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	1690092	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1690096	1	17	5.8	5.0	✓
Chloride in Water by IC	E235.Cl	1690095	1	19	5.2	5.0	✓
Conductivity in Water	E100	1690091	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	2	20	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1690093	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1690098	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1690097	1	19	5.2	5.0	✓
pH by Meter	E108	1690090	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1690094	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1690495	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓
Turbidity by Nephelometry	E121	1690493	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1690092	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1690096	1	17	5.8	5.0	✓
Chloride in Water by IC	E235.Cl	1690095	1	19	5.2	5.0	✓
Conductivity in Water	E100	1690091	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1690093	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1690098	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1690097	1	19	5.2	5.0	✓
pH by Meter	E108	1690090	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	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*
Laboratory Control Samples (LCS) - Continued							
Sulfate in Water by IC	E235.SO4	1690094	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1690495	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1690483	1	16	6.2	5.0	✓
Turbidity by Nephelometry	E121	1690493	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1690092	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1690096	1	17	5.8	5.0	✓
Chloride in Water by IC	E235.Cl	1690095	1	19	5.2	5.0	✓
Conductivity in Water	E100	1690091	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1690093	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1690098	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1690097	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1690094	1	19	5.2	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1690495	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1690483	1	16	6.2	5.0	✓
Turbidity by Nephelometry	E121	1690493	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1690096	1	17	5.8	5.0	✓
Chloride in Water by IC	E235.Cl	1690095	1	19	5.2	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1690093	1	17	5.8	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1690098	1	19	5.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1690097	1	19	5.2	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1690094	1	19	5.2	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
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.
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).

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

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.

ALS Canada Ltd.

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QUALITY CONTROL REPORT

Work Order	: **YL2401638**	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, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 208.030049.00001	Date Samples Received	: 01-Oct-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 04-Oct-2024
C-O-C number	: ----	Issue Date	: 11-Oct-2024 08:26
Sampler	: ----		
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
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Vancouver Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Vancouver Inorganics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, 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: 1690090)											
VA24C6317-007	Anonymous	pH	----	E108	0.10	pH units	8.36	8.37	0.120%	4%	----
Physical Tests (QC Lot: 1690091)											
VA24C6317-007	Anonymous	Conductivity	----	E100	2.0	µS/cm	332	330	0.604%	10%	----
Physical Tests (QC Lot: 1690092)											
VA24C6317-007	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	132	131	0.304%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	3.6	4.0	10.5%	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	1.8	2.0	0.2	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	135	135	0.00%	20%	----
Physical Tests (QC Lot: 1690493)											
VA24C6313-005	Anonymous	Turbidity	----	E121	0.10	NTU	30.2	29.8	1.34%	15%	----
Physical Tests (QC Lot: 1690495)											
YL2401638-001	S1955Z2-240927	Solids, total dissolved [TDS]	----	E162-L	6.0	mg/L	346	338	2.19%	20%	----
Anions and Nutrients (QC Lot: 1690093)											
VA24C5948-001	Anonymous	Fluoride	16984-48-8	E235.F	1.00	mg/L	<1.00	<1.00	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1690094)											
VA24C5948-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	15.0	mg/L	7330	7340	0.141%	20%	----
Anions and Nutrients (QC Lot: 1690095)											
VA24C5948-001	Anonymous	Chloride	16887-00-6	E235.Cl	25.0	mg/L	<25.0	<25.0	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1690096)											
VA24C5948-001	Anonymous	Bromide	24959-67-9	E235.Br-L	2.50	mg/L	<2.50	<2.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1690097)											
VA24C5948-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0500	mg/L	<0.0500	<0.0500	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1690098)											
VA24C5948-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.250	mg/L	<0.250	<0.250	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1691349)											
VA24C6188-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	5.12	5.08	0.819%	20%	----
Anions and Nutrients (QC Lot: 1691902)											
FJ2403018-003	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*
Organic / Inorganic Carbon (QC Lot: 1691900)											
FJ2403018-003	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1691903)											
VA24C5789-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.84	1.92	0.08	Diff <2x LOR	----
Total Metals (QC Lot: 1690177)											
YL2401638-001	S1955Z2-240927	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0043	0.0038	0.0005	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00040	0.00045	0.00005	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00283	0.00288	1.68%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0238	0.0236	0.892%	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	1.02	1.02	0.356%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	11.0	11.3	3.08%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000065	0.000066	0.000001	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00050	<0.00050	0.000004	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00020	0.00020	0.0000005	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.030	0.032	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	0.0271	0.0258	4.72%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	8.92	8.54	4.30%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00502	0.00506	0.860%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00186	0.00189	1.77%	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	1.31	1.28	1.99%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00103	0.00103	0.000003	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	2.93	2.85	2.79%	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	94.4	95.7	1.31%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.357	0.360	0.890%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	33.2	32.0	3.52%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00024	0.00022	0.00002	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: 1690177) - continued											
YL2401638-001	S1955Z2-240927	Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00269	0.00267	0.726%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000020	0.000022	0.000002	Diff <2x LOR	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0044	0.0048	0.0004	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: 1690178)											
YL2401638-001	S1955Z2-240927	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00050	0.00044	0.00006	Diff <2x LOR	----
Total Metals (QC Lot: 1695795)											
VA24C5987-005	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1690227)											
YL2401638-001	S1955Z2-240927	Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00585	0.00576	1.45%	20%	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	0.00094	0.00094	0.000006	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0090	0.0092	0.0002	Diff <2x LOR	----
YL2401638-001	S1955Z2-240927	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0030	0.0034	0.0004	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00038	0.00036	0.00001	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0247	0.0241	2.48%	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	0.909	0.941	3.44%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000087	0.0000069	0.0000018	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	10.2	10.3	1.08%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000062	0.000062	0.0000001	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00019	0.00019	0.000005	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.036	0.035	0.0007	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	0.0263	0.0261	0.645%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	8.51	8.44	0.852%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00483	0.00481	0.253%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00190	0.00193	1.55%	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: 1690227) - continued											
YL2401638-001	S1955Z2-240927	Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00083	0.00079	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	1.18	1.17	0.226%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00103	0.00103	0.000003	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	3.02	2.93	2.92%	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	93.5	94.8	1.44%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.337	0.334	0.966%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	32.3	31.7	1.69%	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	0.00257	0.00254	1.12%	20%	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000019	0.000016	0.000003	Diff <2x LOR	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	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: 1690228)											
YL2401638-001	S1955Z2-240927	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00094	0.00094	0.000006	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1695062)											
YL2401638-001	S1955Z2-240927	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1690091)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1690092)						
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: 1690483)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1690493)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1690495)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1690093)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1690094)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1690095)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1690096)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1690097)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1690098)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1691349)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1691902)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1691900)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1691903)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1691903) - continued						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1690177)						
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: 1690177) - 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: 1690178)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1695795)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1690227)						
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: 1690227) - 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: 1690228)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1695062)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1690090)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1690091)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	93.0	90.0	110	----
Physical Tests (QCLot: 1690092)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	95.7	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1690483)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	94.8	85.0	115	----
Physical Tests (QCLot: 1690493)									
Turbidity	----	E121	0.1	NTU	200 NTU	96.5	85.0	115	----
Physical Tests (QCLot: 1690495)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1690093)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1690094)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1690095)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1690096)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	99.2	85.0	115	----
Anions and Nutrients (QCLot: 1690097)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	100.0	90.0	110	----
Anions and Nutrients (QCLot: 1690098)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1691349)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1691902)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	92.1	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1691900)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 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
Organic / Inorganic Carbon (QCLot: 1691903)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Total Metals (QCLot: 1690177)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	99.5	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	110	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	108	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	96.8	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	96.8	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	102	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	102	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.8	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	101	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	95.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.0	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	93.4	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	102	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	99.5	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	93.1	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	96.3	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	111	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	108	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.2	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	102	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	94.6	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	98.6	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	95.3	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	101	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: 1690177) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	100	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.9	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	99.0	80.0	120	----
Total Metals (QCLot: 1690178)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Total Metals (QCLot: 1695795)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	101	80.0	120	----
Dissolved Metals (QCLot: 1690227)									
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	96.8	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	102	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	95.7	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	98.4	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	96.3	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	93.2	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	93.3	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	96.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	98.2	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	102	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	98.2	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	95.3	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	105	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	96.3	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	96.5	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	94.6	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	95.6	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	97.6	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	101	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: 1690227) - continued									
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	111	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	102	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	96.8	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	105	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	95.5	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.2	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	97.8	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	94.0	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	98.7	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	96.2	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.0	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	96.3	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	97.2	80.0	120	----
Dissolved Metals (QCLot: 1690228)									
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	100	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1690093)										
VA24C6243-001	Anonymous	Fluoride	16984-48-8	E235.F	10.1 mg/L	10 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1690094)										
VA24C6243-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	997 mg/L	1000 mg/L	99.7	75.0	125	----
Anions and Nutrients (QCLot: 1690095)										
VA24C6243-001	Anonymous	Chloride	16887-00-6	E235.Cl	995 mg/L	1000 mg/L	99.5	75.0	125	----
Anions and Nutrients (QCLot: 1690096)										
VA24C6243-001	Anonymous	Bromide	24959-67-9	E235.Br-L	4.80 mg/L	5 mg/L	96.1	75.0	125	----
Anions and Nutrients (QCLot: 1690097)										
VA24C6243-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	4.89 mg/L	5 mg/L	97.8	75.0	125	----
Anions and Nutrients (QCLot: 1690098)										
VA24C6243-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	24.9 mg/L	25 mg/L	99.6	75.0	125	----
Anions and Nutrients (QCLot: 1691349)										
VA24C6188-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	9.86 mg/L	10 mg/L	98.6	75.0	125	----
Anions and Nutrients (QCLot: 1691902)										
FJ2403019-008	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0922 mg/L	0.1 mg/L	92.2	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1691900)										
FJ2403019-008	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.02 mg/L	5 mg/L	100	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1691903)										
YL2401638-001	S1955Z2-240927	Carbon, dissolved organic [DOC]	----	E358-L	5.09 mg/L	5 mg/L	102	70.0	130	----
Total Metals (QCLot: 1690177)										
YL2401638-002	S1955Z6-240927	Aluminum, total	7429-90-5	E420	0.193 mg/L	0.2 mg/L	96.6	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0192 mg/L	0.02 mg/L	95.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0361 mg/L	0.04 mg/L	90.4	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00869 mg/L	0.01 mg/L	86.9	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00397 mg/L	0.004 mg/L	99.2	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00950 mg/L	0.01 mg/L	95.0	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0388 mg/L	0.04 mg/L	97.1	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0191 mg/L	0.02 mg/L	95.6	70.0	130	----
		Copper, total	7440-50-8	E420	0.0186 mg/L	0.02 mg/L	93.2	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: 1690177) - continued										
YL2401638-002	S1955Z6-240927	Iron, total	7439-89-6	E420	1.86 mg/L	2 mg/L	93.0	70.0	130	----
		Lead, total	7439-92-1	E420	0.0181 mg/L	0.02 mg/L	90.4	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0861 mg/L	0.1 mg/L	86.1	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0189 mg/L	0.02 mg/L	94.4	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.43 mg/L	10 mg/L	94.3	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0466 mg/L	0.04 mg/L	117	70.0	130	----
		Silicon, total	7440-21-3	E420	10.1 mg/L	10 mg/L	101	70.0	130	----
		Silver, total	7440-22-4	E420	0.00367 mg/L	0.004 mg/L	91.8	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	22.2 mg/L	20 mg/L	111	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00343 mg/L	0.004 mg/L	85.8	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	----
		Tin, total	7440-31-5	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0389 mg/L	0.04 mg/L	97.3	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0185 mg/L	0.02 mg/L	92.4	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00380 mg/L	0.004 mg/L	95.1	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Zinc, total	7440-66-6	E420	0.375 mg/L	0.4 mg/L	93.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0387 mg/L	0.04 mg/L	96.8	70.0	130	----
Total Metals (QCLot: 1690178)										
YL2401638-002	S1955Z6-240927	Chromium, total	7440-47-3	E420.Cr-L	0.0388 mg/L	0.04 mg/L	97.1	70.0	130	----
Total Metals (QCLot: 1695795)										
VA24C5987-006	Anonymous	Mercury, total	7439-97-6	E508	0.0001000 mg/L	0 mg/L	100.0	70.0	130	----
Dissolved Metals (QCLot: 1690227)										
YL2401638-002	S1955Z6-240927	Aluminum, dissolved	7429-90-5	E421	0.196 mg/L	0.2 mg/L	97.9	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0193 mg/L	0.02 mg/L	96.6	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	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00879 mg/L	0.01 mg/L	87.9	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00374 mg/L	0.004 mg/L	93.6	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00932 mg/L	0.01 mg/L	93.2	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0183 mg/L	0.02 mg/L	91.7	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1690227) - continued										
YL2401638-002	S1955Z6-240927	Copper, dissolved	7440-50-8	E421	0.0181 mg/L	0.02 mg/L	90.3	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.90 mg/L	2 mg/L	94.9	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0942 mg/L	0.1 mg/L	94.2	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	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0356 mg/L	0.04 mg/L	88.9	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.57 mg/L	10 mg/L	95.7	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0412 mg/L	0.04 mg/L	103	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	10.2 mg/L	10 mg/L	102	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00321 mg/L	0.004 mg/L	80.2	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	21.4 mg/L	20 mg/L	107	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0370 mg/L	0.04 mg/L	92.6	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00364 mg/L	0.004 mg/L	90.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0382 mg/L	0.04 mg/L	95.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00362 mg/L	0.004 mg/L	90.6	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0975 mg/L	0.1 mg/L	97.5	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.370 mg/L	0.4 mg/L	92.5	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0385 mg/L	0.04 mg/L	96.3	70.0	130	----
Dissolved Metals (QCLot: 1690228)										
YL2401638-002	S1955Z6-240927	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
Dissolved Metals (QCLot: 1695062)										
YL2401638-002	S1955Z6-240927	Mercury, dissolved	7439-97-6	E509	0.0000960 mg/L	0 mg/L	96.0	70.0	130	----

Environmental Division
Yellowknife
Work Order Reference
YL2401638

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
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	Dissolved Nutrients	Dissolved Metals	Dissolved Mercury		
S1955Z2-240927	S-1955	27-Sep-24	11:59	Water			G	8	X	X	X										
S1955Z6-240927	S-1955	27-Sep-24	12:59	Water			G	8	X	X	X										
S2224Z3-240927	S-2224	27-Sep-24	16:27	Water			G	8	X	X	X										
S224Z9-240927	S-2224	27-Sep-24	17:30	Water			G	8	X	X	X										

Relinquished by (Sampler Signature): Keenan Kakfwi — T.Kkakfwi
Date/Time: 2024-October-01 9:01
Company: SLR Consulting

Received by (Name): Simon
Received by (Signature)
Company: ALS — OCT 01/24
Sample Receipt Temperature (deg. C): 3.3

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	: **YL2401640**		
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	: 01-Oct-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 04-Oct-2024
C-O-C number	: ----	Issue Date	: 08-Oct-2024 11:45
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

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
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia

General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µS/cm	microsiemens per centimetre
-	no units
%	percent
meq/L	milliequivalents 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.

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	SDIAND022Z2-240930	SDIAND022Z4-240930	SDIAND022Z11-240930	----	----
				Client sampling date / time	30-Sep-2024 12:27	30-Sep-2024 13:45	30-Sep-2024 14:40	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401640-001	YL2401640-002	YL2401640-003	----	----
					Result	Result	Result	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	196	140	346	----	----
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	196	140	346	----	----
Conductivity	----	E100/VA	1.0	µS/cm	819	413	1170	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	367	121	544	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	372	129	598	----	----
pH	----	E108/VA	0.10	pH units	8.21	8.17	8.14	----	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	597	314	1060	----	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	<1.0	<1.0	4.0	----	----
Turbidity	----	E121/VA	0.10	NTU	3.06	2.03	13.0	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.372	0.272	0.331	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.250 DLDS	0.056	<0.250 DLDS	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	104	9.24	203	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.272	0.615	<0.100 DLDS	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	2.76	6.08	0.0938	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/VA	0.0050	mg/L	2.76	6.08	0.0938	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0050 DLDS	<0.0010	<0.0050 DLDS	----	----
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	10.6	8.19	13.3	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND022Z2-240930	SDIAND022Z4-240930	SDIAND022Z11-240930	----	----
				Client sampling date / time	30-Sep-2024 12:27	30-Sep-2024 13:45	30-Sep-2024 14:40	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401640-001	YL2401640-002	YL2401640-003	----	----
					Result	Result	Result	----	----
Anions and Nutrients									
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	79.6	69.8	91.4	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	3.88	6.72	7.23	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	3.90	6.07	7.06	----	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	8.72	4.98	14.6	----	----
Cation sum	----	EC101/VA	0.10	meq/L	8.83	4.97	13.9	----	----
Ion balance (APHA)	----	EC101/VA	0.01	%	0.63	-0.10	-2.46	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0046	0.0032	0.0036	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00014	<0.00010	0.00012	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00209	0.00244	0.0284	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0429	0.0612	0.161	----	----
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	<0.000050	<0.000050	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.271	0.667	0.086	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	90.8	29.6	149	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000084	0.000066	0.000071	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00050	0.00236	----	----
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00047	0.00027	0.00236	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND022Z2-240930	SDIAND022Z4-240930	SDIAND022Z11-240930	----	----
				Client sampling date / time	30-Sep-2024 12:27	30-Sep-2024 13:45	30-Sep-2024 14:40	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401640-001	YL2401640-002	YL2401640-003	----	----
					Result	Result	Result	----	----
Total Metals									
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	<0.00010	0.00020	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.244	0.535	1.55	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0171	0.0158	0.0295	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	35.4	13.3	55.0	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00730	0.0181	0.254	----	----
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	0.0186	0.0172	0.00127	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	<0.00050	0.00083	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	<0.050	<0.050	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	2.10	1.68	6.94	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00198	0.00146	0.00227	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	5.30	4.17	6.57	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	32.1	57.9	66.2	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	5.73	1.58	1.45	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	30.6	27.0	35.2	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	0.00112	0.00039	0.00027	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND022Z2-240930	SDIAND022Z4-240930	SDIAND022Z11-240930	----	----
				Client sampling date / time	30-Sep-2024 12:27	30-Sep-2024 13:45	30-Sep-2024 14:40	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401640-001	YL2401640-002	YL2401640-003	----	----
					Result	Result	Result	----	----
Total Metals									
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	0.00010	<0.00010	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00030	<0.00030	<0.00030	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00092	0.0339	0.00931	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00188	0.000141	0.00480	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0122	0.0049	0.0084	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00058	<0.00020	0.00027	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0049	0.0020	0.0019	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00010	0.00012	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.00151	0.00219	0.0274	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0466	0.0666	0.179	----	----
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	<0.000050	<0.000050	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.253	0.546	0.076	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000100 DLA	<0.0000050	<0.0000050	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	89.1	27.7	134	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000085	0.000066	0.000071	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00050	0.00190	----	----
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00020 DLA	0.00029	0.00190	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND022Z2-240930	SDIAND022Z4-240930	SDIAND022Z11-240930	----	----
				Client sampling date / time	30-Sep-2024 12:27	30-Sep-2024 13:45	30-Sep-2024 14:40	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401640-001	YL2401640-002	YL2401640-003	----	----
					Result	Result	Result	----	----
Dissolved Metals									
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00010	0.00018	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00020	<0.00020	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.250	0.498	1.46	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000100 DLA	<0.000050	<0.000050	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0178	0.0146	0.0291	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	35.2	12.5	50.8	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00773	0.0174	0.245	----	----
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	0.0183	0.0178	0.00119	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00050	0.00065	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.100 DLA	<0.050	<0.050	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	1.98	1.59	6.55	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00187	0.00151	0.00222	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	<0.000100 DLA	<0.000050	0.000060	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	5.09	3.87	6.26	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000020 DLA	<0.000010	<0.000010	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	32.2	57.1	63.8	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	5.40	1.59	1.42	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	25.7	23.1	30.1	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00040 DLA	<0.00020	<0.00020	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000020 DLA	<0.000010	<0.000010	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	SDIAND022Z2-240930	SDIAND022Z4-240930	SDIAND022Z11-240930	----	----
				Client sampling date / time	30-Sep-2024 12:27	30-Sep-2024 13:45	30-Sep-2024 14:40	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401640-001	YL2401640-002	YL2401640-003	----	----
					Result	Result	Result	----	----
Dissolved Metals									
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00010	<0.00010	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00020 DLA	<0.00010	<0.00010	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00060 DLA	<0.00030	<0.00030	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00094	0.0329	0.00878	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00180	0.000136	0.00438	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00100 DLA	<0.00050	<0.00050	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0038	0.0068	0.0053	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	0.00051	<0.00020	0.00027	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401640**	Page	: 1 of 17
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	: 01-Oct-2024 09:01
PO	: YEL218	Issue Date	: 08-Oct-2024 11:45
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

- 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) SDIAND022Z11-240930	E298	30-Sep-2024	05-Oct-2024	28 days	4 days	✓	06-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND022Z2-240930	E298	30-Sep-2024	05-Oct-2024	28 days	4 days	✓	06-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SDIAND022Z4-240930	E298	30-Sep-2024	05-Oct-2024	28 days	4 days	✓	06-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SDIAND022Z11-240930	E235.Br-L	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SDIAND022Z2-240930	E235.Br-L	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SDIAND022Z4-240930	E235.Br-L	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SDIAND022Z11-240930	E235.Cl	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-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 SDIAND022Z2-240930	E235.Cl	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SDIAND022Z4-240930	E235.Cl	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND022Z11-240930	E235.F	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND022Z2-240930	E235.F	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SDIAND022Z4-240930	E235.F	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND022Z11-240930	E235.NO3-L	30-Sep-2024	03-Oct-2024	3 days	3 days	✓	03-Oct-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND022Z2-240930	E235.NO3-L	30-Sep-2024	03-Oct-2024	3 days	3 days	✓	03-Oct-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SDIAND022Z4-240930	E235.NO3-L	30-Sep-2024	03-Oct-2024	3 days	3 days	✓	03-Oct-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SDIAND022Z11-240930	E235.NO2-L	30-Sep-2024	03-Oct-2024	3 days	3 days	✓	03-Oct-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 SDIAND022Z2-240930	E235.NO2-L	30-Sep-2024	03-Oct-2024	3 days	3 days	✓	03-Oct-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SDIAND022Z4-240930	E235.NO2-L	30-Sep-2024	03-Oct-2024	3 days	3 days	✓	03-Oct-2024	3 days	3 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SDIAND022Z11-240930	E392	30-Sep-2024	----	----	----		04-Oct-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SDIAND022Z2-240930	E392	30-Sep-2024	----	----	----		04-Oct-2024	28 days	4 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SDIAND022Z4-240930	E392	30-Sep-2024	----	----	----		04-Oct-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SDIAND022Z11-240930	E235.SO4	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SDIAND022Z2-240930	E235.SO4	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SDIAND022Z4-240930	E235.SO4	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	03-Oct-2024	28 days	3 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SDIAND022Z11-240930	E421.Cr-L	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	07-Oct-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) SDIAND022Z2-240930	E421.Cr-L	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	07-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SDIAND022Z4-240930	E421.Cr-L	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	07-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND022Z11-240930	E509	30-Sep-2024	07-Oct-2024	28 days	7 days	✓	07-Oct-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND022Z2-240930	E509	30-Sep-2024	07-Oct-2024	28 days	7 days	✓	07-Oct-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SDIAND022Z4-240930	E509	30-Sep-2024	07-Oct-2024	28 days	7 days	✓	07-Oct-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND022Z11-240930	E421	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	07-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND022Z2-240930	E421	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	07-Oct-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SDIAND022Z4-240930	E421	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	07-Oct-2024	180 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND022Z11-240930	E358-L	30-Sep-2024	05-Oct-2024	28 days	4 days	✓	06-Oct-2024	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND022Z2-240930	E358-L	30-Sep-2024	05-Oct-2024	28 days	4 days	✓	06-Oct-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SDIAND022Z4-240930	E358-L	30-Sep-2024	05-Oct-2024	28 days	4 days	✓	06-Oct-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND022Z11-240930	E355-L	30-Sep-2024	05-Oct-2024	28 days	4 days	✓	06-Oct-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND022Z2-240930	E355-L	30-Sep-2024	05-Oct-2024	28 days	4 days	✓	06-Oct-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SDIAND022Z4-240930	E355-L	30-Sep-2024	05-Oct-2024	28 days	4 days	✓	06-Oct-2024	28 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND022Z11-240930	E290	30-Sep-2024	03-Oct-2024	14 days	3 days	✓	04-Oct-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND022Z2-240930	E290	30-Sep-2024	03-Oct-2024	14 days	3 days	✓	04-Oct-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SDIAND022Z4-240930	E290	30-Sep-2024	03-Oct-2024	14 days	3 days	✓	04-Oct-2024	14 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND022Z11-240930	E100	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	04-Oct-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 SDIAND022Z2-240930	E100	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	04-Oct-2024	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SDIAND022Z4-240930	E100	30-Sep-2024	03-Oct-2024	28 days	3 days	✓	04-Oct-2024	28 days	4 days	✓
Physical Tests : pH by Meter										
HDPE SDIAND022Z11-240930	E108	30-Sep-2024	03-Oct-2024	0.25 hrs	78 hrs	✗ EHTR-FM	04-Oct-2024	0.25 hrs	90 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SDIAND022Z4-240930	E108	30-Sep-2024	03-Oct-2024	0.25 hrs	79 hrs	✗ EHTR-FM	04-Oct-2024	0.25 hrs	91 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SDIAND022Z2-240930	E108	30-Sep-2024	03-Oct-2024	0.25 hrs	80 hrs	✗ EHTR-FM	04-Oct-2024	0.25 hrs	93 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND022Z11-240930	E162-L	30-Sep-2024	----	----	----		04-Oct-2024	7 days	4 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND022Z2-240930	E162-L	30-Sep-2024	----	----	----		04-Oct-2024	7 days	4 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE SDIAND022Z4-240930	E162-L	30-Sep-2024	----	----	----		04-Oct-2024	7 days	4 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SDIAND022Z11-240930	E160-L	30-Sep-2024	----	----	----		04-Oct-2024	7 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 : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SDIAND022Z2-240930	E160-L	30-Sep-2024	----	----	----		04-Oct-2024	7 days	4 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB] SDIAND022Z4-240930	E160-L	30-Sep-2024	----	----	----		04-Oct-2024	7 days	4 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SDIAND022Z11-240930	E121	30-Sep-2024	----	----	----		03-Oct-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SDIAND022Z2-240930	E121	30-Sep-2024	----	----	----		03-Oct-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SDIAND022Z4-240930	E121	30-Sep-2024	----	----	----		03-Oct-2024	3 days	3 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SDIAND022Z2-240930	E420.Cr-L	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	05-Oct-2024	180 days	5 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SDIAND022Z11-240930	E420.Cr-L	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	06-Oct-2024	180 days	6 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SDIAND022Z4-240930	E420.Cr-L	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	06-Oct-2024	180 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND022Z11-240930	E508	30-Sep-2024	08-Oct-2024	28 days	8 days	✓	08-Oct-2024	28 days	8 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND022Z2-240930	E508	30-Sep-2024	08-Oct-2024	28 days	8 days	✓	08-Oct-2024	28 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SDIAND022Z4-240930	E508	30-Sep-2024	08-Oct-2024	28 days	8 days	✓	08-Oct-2024	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SDIAND022Z11-240930	E420	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	06-Oct-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SDIAND022Z2-240930	E420	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	06-Oct-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SDIAND022Z4-240930	E420	30-Sep-2024	04-Oct-2024	180 days	4 days	✓	06-Oct-2024	180 days	6 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	1689214	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1689217	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1689216	1	13	7.6	5.0	✓
Conductivity in Water	E100	1689213	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	2	20	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1689215	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1689218	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1689219	1	13	7.6	5.0	✓
pH by Meter	E108	1689212	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1689220	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1690495	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓
Turbidity by Nephelometry	E121	1689306	1	10	10.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1689214	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1689217	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1689216	1	13	7.6	5.0	✓
Conductivity in Water	E100	1689213	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1689215	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1689218	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1689219	1	13	7.6	5.0	✓
pH by Meter	E108	1689212	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	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*
Laboratory Control Samples (LCS) - Continued							
Sulfate in Water by IC	E235.SO4	1689220	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1690495	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1690483	1	16	6.2	5.0	✓
Turbidity by Nephelometry	E121	1689306	1	10	10.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1689214	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1689217	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1689216	1	13	7.6	5.0	✓
Conductivity in Water	E100	1689213	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1689215	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1689218	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1689219	1	13	7.6	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1689220	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1690495	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1690483	1	16	6.2	5.0	✓
Turbidity by Nephelometry	E121	1689306	1	10	10.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1689217	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1689216	1	13	7.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1689215	1	13	7.6	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1689218	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1689219	1	13	7.6	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1689220	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
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.
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).

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

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
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.

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QUALITY CONTROL REPORT

Work Order	: **YL2401640**	Page	: 1 of 17
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	: 01-Oct-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 03-Oct-2024
C-O-C number	: ----	Issue Date	: 08-Oct-2024 11:45
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*
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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: 1689212)											
KS2404088-001	Anonymous	pH	----	E108	0.10	pH units	8.39	8.40	0.119%	4%	----
Physical Tests (QC Lot: 1689213)											
KS2404088-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	328	327	0.305%	10%	----
Physical Tests (QC Lot: 1689214)											
KS2404088-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	2.0	mg/L	144	144	0.139%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	2.0	mg/L	4.0	4.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	2.0	mg/L	<2.0	<2.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	2.0	mg/L	2.0	2.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	2.0	mg/L	148	148	0.136%	20%	----
Physical Tests (QC Lot: 1689306)											
VA24C6239-002	Anonymous	Turbidity	----	E121	0.10	NTU	0.25	0.24	0.01	Diff <2x LOR	----
Physical Tests (QC Lot: 1690495)											
YL2401638-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	6.0	mg/L	346	338	2.19%	20%	----
Anions and Nutrients (QC Lot: 1689215)											
KS2404088-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.103	0.099	0.005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1689216)											
KS2404088-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	11.7	11.6	0.548%	20%	----
Anions and Nutrients (QC Lot: 1689217)											
KS2404088-001	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: 1689218)											
KS2404088-001	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: 1689219)											
KS2404088-001	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: 1689220)											
KS2404088-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	19.1	19.0	0.594%	20%	----
Anions and Nutrients (QC Lot: 1691349)											
VA24C6188-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	5.12	5.08	0.819%	20%	----
Anions and Nutrients (QC Lot: 1691902)											
FJ2403018-003	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*
Organic / Inorganic Carbon (QC Lot: 1691900)											
FJ2403018-003	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1691903)											
VA24C5789-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.84	1.92	0.08	Diff <2x LOR	----
Total Metals (QC Lot: 1690177)											
YL2401638-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0043	0.0038	0.0005	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00040	0.00045	0.00005	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00283	0.00288	1.68%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0238	0.0236	0.892%	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	1.02	1.02	0.356%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	11.0	11.3	3.08%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000065	0.000066	0.000001	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00050	<0.00050	0.000004	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00020	0.00020	0.0000005	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.030	0.032	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	0.0271	0.0258	4.72%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	8.92	8.54	4.30%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00502	0.00506	0.860%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00186	0.00189	1.77%	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	1.31	1.28	1.99%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00103	0.00103	0.000003	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	2.93	2.85	2.79%	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	94.4	95.7	1.31%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.357	0.360	0.890%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	33.2	32.0	3.52%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00024	0.00022	0.00002	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: 1690177) - continued											
YL2401638-001	Anonymous	Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00269	0.00267	0.726%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000020	0.000022	0.000002	Diff <2x LOR	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0044	0.0048	0.0004	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: 1690178)											
YL2401638-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00050	0.00044	0.00006	Diff <2x LOR	----
Total Metals (QC Lot: 1695795)											
VA24C5987-005	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1690227)											
YL2401638-001	Anonymous	Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00585	0.00576	1.45%	20%	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	0.00094	0.00094	0.000006	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0090	0.0092	0.0002	Diff <2x LOR	----
YL2401638-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0030	0.0034	0.0004	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00038	0.00036	0.00001	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0247	0.0241	2.48%	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	0.909	0.941	3.44%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000087	0.0000069	0.0000018	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	10.2	10.3	1.08%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000062	0.000062	0.0000001	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00019	0.00019	0.000005	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.036	0.035	0.0007	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	0.0263	0.0261	0.645%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	8.51	8.44	0.852%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00483	0.00481	0.253%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00190	0.00193	1.55%	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: 1690227) - continued											
YL2401638-001	Anonymous	Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00083	0.00079	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	1.18	1.17	0.226%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00103	0.00103	0.000003	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	3.02	2.93	2.92%	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	93.5	94.8	1.44%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.337	0.334	0.966%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	32.3	31.7	1.69%	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	0.00257	0.00254	1.12%	20%	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000019	0.000016	0.000003	Diff <2x LOR	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	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: 1690228)											
YL2401638-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00094	0.00094	0.000006	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1695062)											
YL2401638-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----

Method Blank (MB) Report

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

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1689213)						
Conductivity	----	E100	1	µS/cm	1.1	----
Physical Tests (QCLot: 1689214)						
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: 1689306)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1690483)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1690495)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1689215)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1689216)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1689217)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1689218)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1689219)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1689220)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1691349)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1691902)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1691900)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1691903)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1691903) - continued						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1690177)						
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: 1690177) - 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: 1690178)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1695795)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1690227)						
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: 1690227) - 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: 1690228)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1695062)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----

Laboratory Control Sample (LCS) Report

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

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1689212)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1689213)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	106	90.0	110	----
Physical Tests (QCLot: 1689214)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	100	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1689306)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1690483)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	94.8	85.0	115	----
Physical Tests (QCLot: 1690495)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1689215)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1689216)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1689217)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	108	85.0	115	----
Anions and Nutrients (QCLot: 1689218)									
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: 1689219)									
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: 1689220)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1691349)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1691902)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	92.1	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1691900)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 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
Organic / Inorganic Carbon (QCLot: 1691903)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Total Metals (QCLot: 1690177)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	99.5	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	110	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	108	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	96.8	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	96.8	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	102	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	102	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.8	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	101	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	95.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.0	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	93.4	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	102	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	99.5	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	93.1	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	96.3	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	111	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	108	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.2	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	102	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	94.6	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	98.6	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	95.3	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	101	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: 1690177) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	100	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.9	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	99.0	80.0	120	----
Total Metals (QCLot: 1690178)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Total Metals (QCLot: 1695795)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	101	80.0	120	----
Dissolved Metals (QCLot: 1690227)									
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	96.8	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	102	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	95.7	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	98.4	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	96.3	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	93.2	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	93.3	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	96.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	98.2	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	102	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	98.2	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	95.3	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	105	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	96.3	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	96.5	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	94.6	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	95.6	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	97.6	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	101	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: 1690227) - continued									
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	111	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	102	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	96.8	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	105	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	95.5	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.2	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	97.8	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	94.0	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	98.7	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	96.2	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.0	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	96.3	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	97.2	80.0	120	----
Dissolved Metals (QCLot: 1690228)									
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	100	80.0	120	----

Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1689215)										
KS2404088-002	Anonymous	Fluoride	16984-48-8	E235.F	1.04 mg/L	1 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1689216)										
KS2404088-002	Anonymous	Chloride	16887-00-6	E235.Cl	103 mg/L	100 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1689217)										
KS2404088-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.537 mg/L	0.5 mg/L	107	75.0	125	----
Anions and Nutrients (QCLot: 1689218)										
KS2404088-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.60 mg/L	2.5 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1689219)										
KS2404088-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.515 mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1689220)										
KS2404088-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1691349)										
VA24C6188-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	9.86 mg/L	10 mg/L	98.6	75.0	125	----
Anions and Nutrients (QCLot: 1691902)										
FJ2403019-008	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0922 mg/L	0.1 mg/L	92.2	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1691900)										
FJ2403019-008	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.02 mg/L	5 mg/L	100	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1691903)										
YL2401638-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.09 mg/L	5 mg/L	102	70.0	130	----
Total Metals (QCLot: 1690177)										
YL2401638-002	Anonymous	Aluminum, total	7429-90-5	E420	0.193 mg/L	0.2 mg/L	96.6	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0192 mg/L	0.02 mg/L	95.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0361 mg/L	0.04 mg/L	90.4	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00869 mg/L	0.01 mg/L	86.9	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00397 mg/L	0.004 mg/L	99.2	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00950 mg/L	0.01 mg/L	95.0	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0388 mg/L	0.04 mg/L	97.1	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0191 mg/L	0.02 mg/L	95.6	70.0	130	----
		Copper, total	7440-50-8	E420	0.0186 mg/L	0.02 mg/L	93.2	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: 1690177) - continued										
YL2401638-002	Anonymous	Iron, total	7439-89-6	E420	1.86 mg/L	2 mg/L	93.0	70.0	130	----
		Lead, total	7439-92-1	E420	0.0181 mg/L	0.02 mg/L	90.4	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0861 mg/L	0.1 mg/L	86.1	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0189 mg/L	0.02 mg/L	94.4	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.43 mg/L	10 mg/L	94.3	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0466 mg/L	0.04 mg/L	117	70.0	130	----
		Silicon, total	7440-21-3	E420	10.1 mg/L	10 mg/L	101	70.0	130	----
		Silver, total	7440-22-4	E420	0.00367 mg/L	0.004 mg/L	91.8	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	22.2 mg/L	20 mg/L	111	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00343 mg/L	0.004 mg/L	85.8	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	----
		Tin, total	7440-31-5	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0389 mg/L	0.04 mg/L	97.3	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0185 mg/L	0.02 mg/L	92.4	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00380 mg/L	0.004 mg/L	95.1	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Zinc, total	7440-66-6	E420	0.375 mg/L	0.4 mg/L	93.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0387 mg/L	0.04 mg/L	96.8	70.0	130	----
Total Metals (QCLot: 1690178)										
YL2401638-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0388 mg/L	0.04 mg/L	97.1	70.0	130	----
Total Metals (QCLot: 1695795)										
VA24C5987-006	Anonymous	Mercury, total	7439-97-6	E508	0.0001000 mg/L	0 mg/L	100.0	70.0	130	----
Dissolved Metals (QCLot: 1690227)										
YL2401638-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.196 mg/L	0.2 mg/L	97.9	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0193 mg/L	0.02 mg/L	96.6	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	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00879 mg/L	0.01 mg/L	87.9	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00374 mg/L	0.004 mg/L	93.6	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00932 mg/L	0.01 mg/L	93.2	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0183 mg/L	0.02 mg/L	91.7	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1690227) - continued										
YL2401638-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0181 mg/L	0.02 mg/L	90.3	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.90 mg/L	2 mg/L	94.9	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0942 mg/L	0.1 mg/L	94.2	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	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0356 mg/L	0.04 mg/L	88.9	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.57 mg/L	10 mg/L	95.7	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0412 mg/L	0.04 mg/L	103	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	10.2 mg/L	10 mg/L	102	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00321 mg/L	0.004 mg/L	80.2	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	21.4 mg/L	20 mg/L	107	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0370 mg/L	0.04 mg/L	92.6	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00364 mg/L	0.004 mg/L	90.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0382 mg/L	0.04 mg/L	95.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00362 mg/L	0.004 mg/L	90.6	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0975 mg/L	0.1 mg/L	97.5	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.370 mg/L	0.4 mg/L	92.5	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0385 mg/L	0.04 mg/L	96.3	70.0	130	----
Dissolved Metals (QCLot: 1690228)										
YL2401638-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
Dissolved Metals (QCLot: 1695062)										
YL2401638-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000960 mg/L	0 mg/L	96.0	70.0	130	----

Environmental Division
Yellowknife
Work Order Reference
YL2401640

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
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	Dissolved Nutrients	Dissolved Metals	Dissolved Mercury		
SDIAND022Z2-240930	S-DIAND-022	30-Sep-24	12:27	Water			G	8	X	X	X										
SDIAND022Z4-240930	S-DIAND-022	30-Sep-24	13:45	Water			G	8	X	X	X										
SDIAND022Z11-240930	S-DIAND-022	30-Sep-24	14:40	Water			G	8	X	X	X										

Relinquished by (Sampler Signature): Keenan Kakfwi — T.Kakfwi
Date/Time: 2024-October-01 9:01
Company: SLR Consulting

Received by (Name): Simon
Received by (Signature) Sb
Company: ALS
OCT 01/24

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 3.3
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	: **YL2401641**		
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	: 01-Oct-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 04-Oct-2024
C-O-C number	: ----	Issue Date	: 08-Oct-2024 16:41
Sampler	: ----		
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
Kate Dimitrova	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia

General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µS/cm	microsiemens per centimetre
-	no units
meq/L	milliequivalents per litre
%	percent
µg/L	micrograms 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.

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)				Client sample ID	TRCK-240928	SNP4323-240928	DUP-SNP4323-240928	SNP435-240928	----
				Client sampling date / time	28-Sep-2024 19:10	28-Sep-2024 19:32	28-Sep-2024 19:32	28-Sep-2024 19:43	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401641-001	YL2401641-002	YL2401641-003	YL2401641-004	----
					Result	Result	Result	Result	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L	170	55.3	55.0	56.6	----
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	170	55.3	55.0	56.6	----
Conductivity	----	E100/VA	1.0	µS/cm	942	3340	3330	3260	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	396	1520	1510	1530	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	423	1580	1640	1580	----
pH	----	E108/VA	0.10	pH units	8.21	7.67	7.69	7.71	----
Solids, total dissolved [TDS]	----	E162-L/VA	3.0	mg/L	688	3070	3010	3060	----
Solids, total suspended [TSS]	----	E160-L/VA	1.0	mg/L	1.7	9.0	8.4	3.4	----
Turbidity	----	E121/VA	0.10	NTU	1.92	9.28	9.19	4.63	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0340	0.0347	0.0339	0.0228	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	0.869	5.70	5.71	5.72	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	94.0	486	487	483	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.106	<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 DLDS	<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 DLDS	<0.0200 DLDS	<0.0200 DLDS	<0.0200 DLDS	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0261	0.0350	0.0312	0.0198	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240928	SNP4323-240928	DUP-SNP4323-240928	SNP435-240928	----
				Client sampling date / time	28-Sep-2024 19:10	28-Sep-2024 19:32	28-Sep-2024 19:32	28-Sep-2024 19:43	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401641-001	YL2401641-002	YL2401641-003	YL2401641-004	----
					Result	Result	Result	Result	----
Anions and Nutrients									
Silicate (as SiO2)	7631-86-9	E392/VA	0.50	mg/L	4.21	0.85	0.82	0.81	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	170	1120	1130	1120	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	23.8	8.86 RRV	8.65 RRV	8.26	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	23.8	6.95 RRV	6.71 RRV	6.86	----
Ion Balance									
Anion sum	----	EC101/VA	0.10	meq/L	9.60	38.2	38.4	38.1	----
Cation sum	----	EC101/VA	0.10	meq/L	9.88	39.5	39.4	40.1	----
Ion balance (APHA)	----	EC101/VA	0.01	%	1.44	1.67	1.28	2.56	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0573	0.262	0.291	0.141	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00576	0.146	0.149	0.135	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.0916	0.207	0.193	0.163	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0465	0.0647	0.0629	0.0597	----
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	0.035	0.310	0.326	0.325	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000050	0.0000522	0.0000412	0.0000556	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	92.7	442	465	442	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	<0.000010	0.000122	0.000113	0.000099	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240928	SNP4323-240928	DUP-SNP4323-240928	SNP435-240928	----
				Client sampling date / time	28-Sep-2024 19:10	28-Sep-2024 19:32	28-Sep-2024 19:32	28-Sep-2024 19:43	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401641-001	YL2401641-002	YL2401641-003	YL2401641-004	----
					Result	Result	Result	Result	----
Total Metals									
Chromium, total	7440-47-3	E420.Cr-L/VA	0.00010	mg/L	0.00015	0.00048	0.00048	0.00026	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00295	0.00535	0.00510	0.00404	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00050	0.00894	0.00738	0.00506	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.072	0.817	0.681	0.396	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000104	0.00388	0.00287	0.00170	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0135	0.0322	0.0326	0.0317	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	46.6	115	116	116	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0274	0.426	0.400	0.259	----
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	0.000839	0.0106	0.0105	0.0100	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00085	0.0108	0.0110	0.00985	----
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	6.28	13.1	13.3	13.3	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00307	0.0111	0.0111	0.0109	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000053	0.000306	0.000329	0.000213	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	2.25	1.03	1.19	0.70	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	0.000037	0.000040	0.000024	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	44.6	206	203	203	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.471	4.32	4.40	4.33	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	72.8	493	493	472	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	0.00069	0.00093	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240928	SNP4323-240928	DUP-SNP4323-240928	SNP435-240928	----
				Client sampling date / time	28-Sep-2024 19:10	28-Sep-2024 19:32	28-Sep-2024 19:32	28-Sep-2024 19:43	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401641-001	YL2401641-002	YL2401641-003	YL2401641-004	----
					Result	Result	Result	Result	----
Total Metals									
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000014	<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	<0.00180 DLM	<0.0105 DLM	<0.0102 DLM	<0.00540 DLM	----
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	0.00151	0.00251	0.00248	0.00250	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	0.0238	0.0158	0.0147	----
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	0.0050	0.0032	0.0038	0.0038	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00572	0.143	0.146	0.140	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.0858	0.0702	0.0712	0.0805	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.0501	0.0642	0.0644	0.0649	----
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	<0.000050	<0.000100 DLA	<0.000100 DLA	<0.000100 DLA	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.032	0.287	0.276	0.271	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	0.0000240	0.0000210	0.0000406	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	89.3	422	416	419	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	0.000074	0.000072	0.000078	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	<0.00100 DLA	<0.00100 DLA	<0.00100 DLA	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240928	SNP4323-240928	DUP-SNP4323-240928	SNP435-240928	----
				Client sampling date / time	28-Sep-2024 19:10	28-Sep-2024 19:32	28-Sep-2024 19:32	28-Sep-2024 19:43	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401641-001	YL2401641-002	YL2401641-003	YL2401641-004	----
					Result	Result	Result	Result	----
Dissolved Metals									
Chromium, dissolved	7440-47-3	E421.Cr-L/VA	0.00010	mg/L	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	0.00267	0.00446	0.00445	0.00384	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	<0.00020	0.00181	0.00180	0.00289	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.024	0.024	0.026	0.047	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	<0.000100 DLA	<0.000100 DLA	0.000195	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0141	0.0321	0.0308	0.0303	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	42.1	113	114	118	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.0236	0.368	0.372	0.257	----
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	0.000827	0.0104	0.0106	0.0101	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	0.00059	0.00946	0.0108	0.00944	----
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	6.18	13.2	12.6	13.2	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00292	0.0105	0.0105	0.0109	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000052	0.000144	0.000177	0.000155	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	1.95	0.408	0.378	0.376	----
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	41.4	203	205	211	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.445	4.27	4.42	4.34	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	60.7	425	422	431	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00040 DLA	<0.00040 DLA	<0.00040 DLA	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

				Client sample ID	TRCK-240928	SNP4323-240928	DUP-SNP4323-240928	SNP435-240928	----
				Client sampling date / time	28-Sep-2024 19:10	28-Sep-2024 19:32	28-Sep-2024 19:32	28-Sep-2024 19:43	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401641-001	YL2401641-002	YL2401641-003	YL2401641-004	----
					Result	Result	Result	Result	----
Dissolved Metals									
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	<0.00030	<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	0.00144	0.00247	0.00234	0.00235	----
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	0.0106	0.0101	0.0112	----
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]									
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	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	TRCK-240928	SNP4323-240928	DUP-SNP4323-240928	SNP435-240928	----
				Client sampling date / time	28-Sep-2024 19:10	28-Sep-2024 19:32	28-Sep-2024 19:32	28-Sep-2024 19:43	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit	YL2401641-001	YL2401641-002	YL2401641-003	YL2401641-004	----
					Result	Result	Result	Result	----
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	%	----	----	----	82.5	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	----	----	----	109	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	----	----	108	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	----	----	98.0	----

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

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **YL2401641**	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	: 01-Oct-2024 09:01
PO	: YEL218	Issue Date	: 08-Oct-2024 16:41
C-O-C number	: ----		
Sampler	: ----		
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-SNP4323-240928	E298	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP4323-240928	E298	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SNP435-240928	E298	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TRCK-240928	E298	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE DUP-SNP4323-240928	E235.Br-L	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP4323-240928	E235.Br-L	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SNP435-240928	E235.Br-L	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-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
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE TRCK-240928	E235.Br-L	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP-SNP4323-240928	E235.Cl	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP4323-240928	E235.Cl	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SNP435-240928	E235.Cl	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TRCK-240928	E235.Cl	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-SNP4323-240928	E235.F	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP4323-240928	E235.F	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SNP435-240928	E235.F	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE TRCK-240928	E235.F	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-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
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
DUP-SNP4323-240928	E235.NO3-L	28-Sep-2024	04-Oct-2024	3 days	6 days	✗ EHT	04-Oct-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
SNP4323-240928	E235.NO3-L	28-Sep-2024	04-Oct-2024	3 days	6 days	✗ EHT	04-Oct-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
SNP435-240928	E235.NO3-L	28-Sep-2024	04-Oct-2024	3 days	6 days	✗ EHT	04-Oct-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
TRCK-240928	E235.NO3-L	28-Sep-2024	04-Oct-2024	3 days	6 days	✗ EHT	04-Oct-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
DUP-SNP4323-240928	E235.NO2-L	28-Sep-2024	04-Oct-2024	3 days	6 days	✗ EHT	04-Oct-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP4323-240928	E235.NO2-L	28-Sep-2024	04-Oct-2024	3 days	6 days	✗ EHT	04-Oct-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
SNP435-240928	E235.NO2-L	28-Sep-2024	04-Oct-2024	3 days	6 days	✗ EHT	04-Oct-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
TRCK-240928	E235.NO2-L	28-Sep-2024	04-Oct-2024	3 days	6 days	✗ EHT	04-Oct-2024	3 days	6 days	✗ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE										
DUP-SNP4323-240928	E392	28-Sep-2024	----	----	----		04-Oct-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
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP4323-240928	E392	28-Sep-2024	----	----	----		04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SNP435-240928	E392	28-Sep-2024	----	----	----		04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TRCK-240928	E392	28-Sep-2024	----	----	----		04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE DUP-SNP4323-240928	E235.SO4	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP4323-240928	E235.SO4	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SNP435-240928	E235.SO4	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE TRCK-240928	E235.SO4	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) DUP-SNP4323-240928	E372-U	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	07-Oct-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP4323-240928	E372-U	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	07-Oct-2024	28 days	9 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SNP435-240928	E372-U	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	07-Oct-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) TRCK-240928	E372-U	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	07-Oct-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) DUP-SNP4323-240928	E421.Cr-L	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	07-Oct-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP4323-240928	E421.Cr-L	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	07-Oct-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) SNP435-240928	E421.Cr-L	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	07-Oct-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Chromium in Water by CRC ICPMS (Low Level)										
HDPE - dissolved (lab preserved) TRCK-240928	E421.Cr-L	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	07-Oct-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-SNP4323-240928	E509	28-Sep-2024	07-Oct-2024	28 days	9 days	✓	07-Oct-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP4323-240928	E509	28-Sep-2024	07-Oct-2024	28 days	9 days	✓	07-Oct-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SNP435-240928	E509	28-Sep-2024	07-Oct-2024	28 days	9 days	✓	07-Oct-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
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
TRCK-240928	E509	28-Sep-2024	07-Oct-2024	28 days	9 days	✓	07-Oct-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
DUP-SNP4323-240928	E421	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	07-Oct-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SNP4323-240928	E421	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	07-Oct-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
SNP435-240928	E421	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	07-Oct-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
TRCK-240928	E421	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	07-Oct-2024	180 days	9 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
SNP435-240928	E601	28-Sep-2024	04-Oct-2024	14 days	5 days	✓	04-Oct-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
SNP435-240928	E581.VH+F1	28-Sep-2024	04-Oct-2024	14 days	6 days	✓	05-Oct-2024	14 days	6 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
DUP-SNP4323-240928	E358-L	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SNP4323-240928	E358-L	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-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
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SNP435-240928	E358-L	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) TRCK-240928	E358-L	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) DUP-SNP4323-240928	E355-L	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP4323-240928	E355-L	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SNP435-240928	E355-L	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) TRCK-240928	E355-L	28-Sep-2024	05-Oct-2024	28 days	6 days	✓	06-Oct-2024	28 days	8 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-SNP4323-240928	E290	28-Sep-2024	04-Oct-2024	14 days	6 days	✓	04-Oct-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP4323-240928	E290	28-Sep-2024	04-Oct-2024	14 days	6 days	✓	04-Oct-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SNP435-240928	E290	28-Sep-2024	04-Oct-2024	14 days	6 days	✓	04-Oct-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 TRCK-240928	E290	28-Sep-2024	04-Oct-2024	14 days	6 days	✓	04-Oct-2024	14 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-SNP4323-240928	E100	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP4323-240928	E100	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SNP435-240928	E100	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE TRCK-240928	E100	28-Sep-2024	04-Oct-2024	28 days	6 days	✓	04-Oct-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE SNP435-240928	E108	28-Sep-2024	04-Oct-2024	0.25 hrs	140 hrs	✖ EHTR-FM	04-Oct-2024	0.25 hrs	142 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-SNP4323-240928	E108	28-Sep-2024	04-Oct-2024	0.25 hrs	140 hrs	✖ EHTR-FM	04-Oct-2024	0.25 hrs	143 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE SNP4323-240928	E108	28-Sep-2024	04-Oct-2024	0.25 hrs	140 hrs	✖ EHTR-FM	04-Oct-2024	0.25 hrs	143 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE TRCK-240928	E108	28-Sep-2024	04-Oct-2024	0.25 hrs	141 hrs	✖ EHTR-FM	04-Oct-2024	0.25 hrs	143 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 : TDS by Gravimetry (Low Level)										
HDPE										
DUP-SNP4323-240928	E162-L	28-Sep-2024	----	----	----		04-Oct-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
SNP4323-240928	E162-L	28-Sep-2024	----	----	----		04-Oct-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
SNP435-240928	E162-L	28-Sep-2024	----	----	----		04-Oct-2024	7 days	6 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE										
TRCK-240928	E162-L	28-Sep-2024	----	----	----		04-Oct-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
DUP-SNP4323-240928	E160-L	28-Sep-2024	----	----	----		04-Oct-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP4323-240928	E160-L	28-Sep-2024	----	----	----		04-Oct-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
SNP435-240928	E160-L	28-Sep-2024	----	----	----		04-Oct-2024	7 days	6 days	✓
Physical Tests : TSS by Gravimetry (Low Level)										
HDPE [TSS-WB]										
TRCK-240928	E160-L	28-Sep-2024	----	----	----		04-Oct-2024	7 days	6 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
DUP-SNP4323-240928	E121	28-Sep-2024	----	----	----		04-Oct-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 SNP4323-240928	E121	28-Sep-2024	----	----	----		04-Oct-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SNP435-240928	E121	28-Sep-2024	----	----	----		04-Oct-2024	3 days	6 days	× EHT
Physical Tests : Turbidity by Nephelometry										
HDPE TRCK-240928	E121	28-Sep-2024	----	----	----		04-Oct-2024	3 days	6 days	× EHT
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) DUP-SNP4323-240928	E420.Cr-L	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	05-Oct-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP4323-240928	E420.Cr-L	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	05-Oct-2024	180 days	7 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) SNP435-240928	E420.Cr-L	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	06-Oct-2024	180 days	8 days	✓
Total Metals : Total Chromium in Water by CRC ICPMS (Low Level)										
HDPE - total (lab preserved) TRCK-240928	E420.Cr-L	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	06-Oct-2024	180 days	8 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) DUP-SNP4323-240928	E508	28-Sep-2024	08-Oct-2024	28 days	9 days	✓	08-Oct-2024	28 days	9 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP4323-240928	E508	28-Sep-2024	08-Oct-2024	28 days	9 days	✓	08-Oct-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
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SNP435-240928	E508	28-Sep-2024	08-Oct-2024	28 days	9 days	✓	08-Oct-2024	28 days	9 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) TRCK-240928	E508	28-Sep-2024	08-Oct-2024	28 days	9 days	✓	08-Oct-2024	28 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) DUP-SNP4323-240928	E420	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	06-Oct-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP4323-240928	E420	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	06-Oct-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SNP435-240928	E420	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	06-Oct-2024	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) TRCK-240928	E420	28-Sep-2024	04-Oct-2024	180 days	6 days	✓	06-Oct-2024	180 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) SNP435-240928	E611A	28-Sep-2024	04-Oct-2024	14 days	6 days	✓	05-Oct-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	1691011	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1691015	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1690021	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1691014	1	20	5.0	5.0	✓
Conductivity in Water	E100	1691012	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	2	20	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1691013	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1691016	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1691017	1	20	5.0	5.0	✓
pH by Meter	E108	1691010	1	16	6.2	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1691018	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1690495	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1691901	1	11	9.0	5.0	✓
Turbidity by Nephelometry	E121	1691344	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1690020	1	14	7.1	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1691011	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1691015	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1690021	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1689421	1	5	20.0	5.0	✓
Chloride in Water by IC	E235.Cl	1691014	1	20	5.0	5.0	✓
Conductivity in Water	E100	1691012	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Fluoride in Water by IC	E235.F	1691013	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1691016	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1691017	1	20	5.0	5.0	✓
pH by Meter	E108	1691010	1	16	6.2	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1691018	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1690495	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1691901	1	11	9.0	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1690483	1	16	6.2	5.0	✓
Turbidity by Nephelometry	E121	1691344	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1690020	1	14	7.1	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1691011	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1691015	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1690021	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1689421	1	5	20.0	5.0	✓
Chloride in Water by IC	E235.Cl	1691014	1	20	5.0	5.0	✓
Conductivity in Water	E100	1691012	1	15	6.6	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1691013	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1691016	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1691017	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1691018	1	20	5.0	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1690495	1	11	9.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1691901	1	11	9.0	5.0	✓
TSS by Gravimetry (Low Level)	E160-L	1690483	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*
Method Blanks (MB) - Continued							
Turbidity by Nephelometry	E121	1691344	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1690020	1	14	7.1	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1691902	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1691015	1	20	5.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1690021	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1691014	1	20	5.0	5.0	✓
Dissolved Chromium in Water by CRC ICPMS (Low Level)	E421.Cr-L	1690228	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1695062	1	12	8.3	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1690227	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1691903	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1691013	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1691016	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1691017	1	20	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	1691349	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1691018	1	20	5.0	5.0	✓
Total Chromium in Water by CRC ICPMS (Low Level)	E420.Cr-L	1690178	1	11	9.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1695795	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1690177	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1691900	1	17	5.8	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1691901	1	11	9.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1690020	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 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 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	: **YL2401641**	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	: 01-Oct-2024 09:01
PO	: YEL218	Date Analysis Commenced	: 04-Oct-2024
C-O-C number	: ----	Issue Date	: 08-Oct-2024 16:41
Sampler	: ----		
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
Kate Dimitrova	Supervisor - Inorganic	Vancouver Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, 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: 1690495)											
YL2401638-001	Anonymous	Solids, total dissolved [TDS]	----	E162-L	6.0	mg/L	346	338	2.19%	20%	----
Physical Tests (QC Lot: 1691010)											
YL2401641-001	TRCK-240928	pH	----	E108	0.10	pH units	8.21	8.23	0.243%	4%	----
Physical Tests (QC Lot: 1691011)											
YL2401641-001	TRCK-240928	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	170	170	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	170	170	0.00%	20%	----
Physical Tests (QC Lot: 1691012)											
YL2401641-001	TRCK-240928	Conductivity	----	E100	1.0	µS/cm	942	935	0.746%	10%	----
Physical Tests (QC Lot: 1691344)											
VA24C6188-001	Anonymous	Turbidity	----	E121	0.10	NTU	6.21	6.25	0.642%	15%	----
Anions and Nutrients (QC Lot: 1691013)											
FJ2402978-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.092	0.096	0.003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1691014)											
FJ2402978-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	0.54	0.53	0.01	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1691015)											
FJ2402978-001	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: 1691016)											
FJ2402978-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.180	0.180	0.181%	20%	----
Anions and Nutrients (QC Lot: 1691017)											
FJ2402978-001	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: 1691018)											
FJ2402978-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	4.25	4.24	0.157%	20%	----
Anions and Nutrients (QC Lot: 1691349)											
VA24C6188-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	5.12	5.08	0.819%	20%	----
Anions and Nutrients (QC Lot: 1691901)											
FJ2403018-003	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	<0.0020	<0.0020	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: 1691902)											
FJ2403018-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1691900)											
FJ2403018-003	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1691903)											
VA24C5789-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.84	1.92	0.08	Diff <2x LOR	----
Total Metals (QC Lot: 1690177)											
YL2401638-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0043	0.0038	0.0005	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00040	0.00045	0.00005	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00283	0.00288	1.68%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0238	0.0236	0.892%	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	1.02	1.02	0.356%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	11.0	11.3	3.08%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000065	0.000066	0.000001	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00050	<0.00050	0.000004	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00020	0.00020	0.0000005	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.030	0.032	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	0.0271	0.0258	4.72%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	8.92	8.54	4.30%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00502	0.00506	0.860%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00186	0.00189	1.77%	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	1.31	1.28	1.99%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00103	0.00103	0.000003	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	2.93	2.85	2.79%	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	94.4	95.7	1.31%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.357	0.360	0.890%	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: 1690177) - continued											
YL2401638-001	Anonymous	Sulfur, total	7704-34-9	E420	0.50	mg/L	33.2	32.0	3.52%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00024	0.00022	0.00002	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00269	0.00267	0.726%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000020	0.000022	0.000002	Diff <2x LOR	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0044	0.0048	0.0004	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: 1690178)											
YL2401638-001	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.00010	mg/L	0.00050	0.00044	0.00006	Diff <2x LOR	----
Total Metals (QC Lot: 1695795)											
VA24C5987-005	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1690227)											
YL2401638-001	Anonymous	Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00585	0.00576	1.45%	20%	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	0.00094	0.00094	0.000006	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0090	0.0092	0.0002	Diff <2x LOR	----
YL2401638-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0030	0.0034	0.0004	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00038	0.00036	0.00001	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0247	0.0241	2.48%	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	0.909	0.941	3.44%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000087	0.0000069	0.0000018	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	10.2	10.3	1.08%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000062	0.000062	0.0000001	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00019	0.00019	0.000005	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.036	0.035	0.0007	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	0.0263	0.0261	0.645%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	8.51	8.44	0.852%	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: 1690227) - continued											
YL2401638-001	Anonymous	Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00483	0.00481	0.253%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00190	0.00193	1.55%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00083	0.00079	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	1.18	1.17	0.226%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00103	0.00103	0.000003	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	3.02	2.93	2.92%	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	93.5	94.8	1.44%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.337	0.334	0.966%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	32.3	31.7	1.69%	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	0.00257	0.00254	1.12%	20%	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000019	0.000016	0.000003	Diff <2x LOR	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	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: 1690228)											
YL2401638-001	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.00010	mg/L	0.00094	0.00094	0.000006	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1695062)											
YL2401638-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1690021)											
KS2403943-001	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: 1690020)											

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: 1690020) - continued											
KS2403943-001	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: 1690483)						
Solids, total suspended [TSS]	----	E160-L	1	mg/L	<1.0	----
Physical Tests (QCLot: 1690495)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1691011)						
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: 1691012)						
Conductivity	----	E100	1	µS/cm	1.4	----
Physical Tests (QCLot: 1691344)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1691013)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1691014)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1691015)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1691016)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1691017)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1691018)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1691349)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1691901)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1691902)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1691900)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1691900) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1691903)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1690177)						
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: 1690177) - 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: 1690178)						
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	<0.00010	----
Total Metals (QCLot: 1695795)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1690227)						
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: 1690227) - 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: 1690228)						
Chromium, dissolved	7440-47-3	E421.Cr-L	0.0001	mg/L	<0.00010	----
Dissolved Metals (QCLot: 1695062)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Volatile Organic Compounds (QCLot: 1690021)						
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: 1689421)						
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: 1690020)						
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: 1690483)									
Solids, total suspended [TSS]	----	E160-L	1	mg/L	150 mg/L	94.8	85.0	115	----
Physical Tests (QCLot: 1690495)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	100	85.0	115	----
Physical Tests (QCLot: 1691010)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1691011)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	100	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1691012)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	103	90.0	110	----
Physical Tests (QCLot: 1691344)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Anions and Nutrients (QCLot: 1691013)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	97.6	90.0	110	----
Anions and Nutrients (QCLot: 1691014)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1691015)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	99.9	85.0	115	----
Anions and Nutrients (QCLot: 1691016)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1691017)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.2	90.0	110	----
Anions and Nutrients (QCLot: 1691018)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1691349)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1691901)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	91.9	80.0	120	----
Anions and Nutrients (QCLot: 1691902)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	92.1	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: 1691900)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1691903)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Total Metals (QCLot: 1690177)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	99.5	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	110	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	108	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	96.8	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	96.8	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	102	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	102	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.8	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	101	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	95.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.0	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	93.4	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	102	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	99.5	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	93.1	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	96.3	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	111	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	108	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.2	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	102	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	94.6	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	98.6	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1690177) - continued									
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	95.3	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	100	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	98.9	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	99.0	80.0	120	----
Total Metals (QCLot: 1690178)									
Chromium, total	7440-47-3	E420.Cr-L	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Total Metals (QCLot: 1695795)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	101	80.0	120	----
Dissolved Metals (QCLot: 1690227)									
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	96.8	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	102	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	95.7	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	98.4	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	96.3	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	93.2	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	93.3	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	96.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	98.2	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	102	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	98.2	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	95.3	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	105	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	96.3	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	96.5	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	94.6	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	95.6	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1690227) - continued									
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	97.6	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	111	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	102	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	96.8	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	105	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	95.5	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.2	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	97.8	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	94.0	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	98.7	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	96.2	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.0	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	96.3	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	97.2	80.0	120	----
Dissolved Metals (QCLot: 1690228)									
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	100	80.0	120	----
Volatile Organic Compounds (QCLot: 1690021)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	94.7	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	89.9	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	99.4	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	93.3	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	89.4	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	92.4	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	89.9	70.0	130	----
Hydrocarbons (QCLot: 1689421)									
F2 (C10-C16)	----	E601	100	µg/L	4370 µg/L	105	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	8390 µg/L	103	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	6420 µg/L	103	70.0	130	----
Hydrocarbons (QCLot: 1690020)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	100	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: 1691013)										
FJ2402978-002	Anonymous	Fluoride	16984-48-8	E235.F	0.974 mg/L	1 mg/L	97.4	75.0	125	----
Anions and Nutrients (QCLot: 1691014)										
FJ2402978-002	Anonymous	Chloride	16887-00-6	E235.Cl	99.7 mg/L	100 mg/L	99.7	75.0	125	----
Anions and Nutrients (QCLot: 1691015)										
FJ2402978-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.492 mg/L	0.5 mg/L	98.5	75.0	125	----
Anions and Nutrients (QCLot: 1691016)										
FJ2402978-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.47 mg/L	2.5 mg/L	99.0	75.0	125	----
Anions and Nutrients (QCLot: 1691017)										
FJ2402978-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.490 mg/L	0.5 mg/L	97.9	75.0	125	----
Anions and Nutrients (QCLot: 1691018)										
FJ2402978-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	97.7 mg/L	100 mg/L	97.7	75.0	125	----
Anions and Nutrients (QCLot: 1691349)										
VA24C6188-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	9.86 mg/L	10 mg/L	98.6	75.0	125	----
Anions and Nutrients (QCLot: 1691901)										
FJ2403019-008	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0469 mg/L	0.05 mg/L	93.8	70.0	130	----
Anions and Nutrients (QCLot: 1691902)										
FJ2403019-008	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0922 mg/L	0.1 mg/L	92.2	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1691900)										
FJ2403019-008	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.02 mg/L	5 mg/L	100	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1691903)										
YL2401638-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.09 mg/L	5 mg/L	102	70.0	130	----
Total Metals (QCLot: 1690177)										
YL2401638-002	Anonymous	Aluminum, total	7429-90-5	E420	0.193 mg/L	0.2 mg/L	96.6	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0192 mg/L	0.02 mg/L	95.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	ND mg/L	----	ND	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0361 mg/L	0.04 mg/L	90.4	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00869 mg/L	0.01 mg/L	86.9	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00397 mg/L	0.004 mg/L	99.2	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00950 mg/L	0.01 mg/L	95.0	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0388 mg/L	0.04 mg/L	97.1	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1690177) - continued										
YL2401638-002	Anonymous	Cobalt, total	7440-48-4	E420	0.0191 mg/L	0.02 mg/L	95.6	70.0	130	----
		Copper, total	7440-50-8	E420	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	----
		Iron, total	7439-89-6	E420	1.86 mg/L	2 mg/L	93.0	70.0	130	----
		Lead, total	7439-92-1	E420	0.0181 mg/L	0.02 mg/L	90.4	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0861 mg/L	0.1 mg/L	86.1	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0189 mg/L	0.02 mg/L	94.4	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.43 mg/L	10 mg/L	94.3	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0466 mg/L	0.04 mg/L	117	70.0	130	----
		Silicon, total	7440-21-3	E420	10.1 mg/L	10 mg/L	101	70.0	130	----
		Silver, total	7440-22-4	E420	0.00367 mg/L	0.004 mg/L	91.8	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	22.2 mg/L	20 mg/L	111	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00343 mg/L	0.004 mg/L	85.8	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	----
		Tin, total	7440-31-5	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0389 mg/L	0.04 mg/L	97.3	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0185 mg/L	0.02 mg/L	92.4	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00380 mg/L	0.004 mg/L	95.1	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Zinc, total	7440-66-6	E420	0.375 mg/L	0.4 mg/L	93.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0387 mg/L	0.04 mg/L	96.8	70.0	130	----
Total Metals (QCLot: 1690178)										
YL2401638-002	Anonymous	Chromium, total	7440-47-3	E420.Cr-L	0.0388 mg/L	0.04 mg/L	97.1	70.0	130	----
Total Metals (QCLot: 1695795)										
VA24C5987-006	Anonymous	Mercury, total	7439-97-6	E508	0.0001000 mg/L	0 mg/L	100.0	70.0	130	----
Dissolved Metals (QCLot: 1690227)										
YL2401638-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.196 mg/L	0.2 mg/L	97.9	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0193 mg/L	0.02 mg/L	96.6	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	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00879 mg/L	0.01 mg/L	87.9	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00374 mg/L	0.004 mg/L	93.6	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00932 mg/L	0.01 mg/L	93.2	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: 1690227) - continued										
YL2401638-002	Anonymous	Chromium, dissolved	7440-47-3	E421	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0183 mg/L	0.02 mg/L	91.7	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0181 mg/L	0.02 mg/L	90.3	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.90 mg/L	2 mg/L	94.9	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0942 mg/L	0.1 mg/L	94.2	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	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0356 mg/L	0.04 mg/L	88.9	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.57 mg/L	10 mg/L	95.7	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0412 mg/L	0.04 mg/L	103	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	10.2 mg/L	10 mg/L	102	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00321 mg/L	0.004 mg/L	80.2	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	21.4 mg/L	20 mg/L	107	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0370 mg/L	0.04 mg/L	92.6	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00364 mg/L	0.004 mg/L	90.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0382 mg/L	0.04 mg/L	95.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00362 mg/L	0.004 mg/L	90.6	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0975 mg/L	0.1 mg/L	97.5	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.370 mg/L	0.4 mg/L	92.5	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0385 mg/L	0.04 mg/L	96.3	70.0	130	----
Dissolved Metals (QCLot: 1690228)										
YL2401638-002	Anonymous	Chromium, dissolved	7440-47-3	E421.Cr-L	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----
Dissolved Metals (QCLot: 1695062)										
YL2401638-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000960 mg/L	0 mg/L	96.0	70.0	130	----
Volatile Organic Compounds (QCLot: 1690021)										
KS2403987-005	Anonymous	Benzene	71-43-2	E611A	93.9 µg/L	100 µg/L	93.9	60.0	140	----
		Ethylbenzene	100-41-4	E611A	90.6 µg/L	100 µg/L	90.6	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	99.0 µg/L	100 µg/L	99.0	60.0	140	----
		Styrene	100-42-5	E611A	93.0 µg/L	100 µg/L	93.0	60.0	140	----
		Toluene	108-88-3	E611A	89.7 µg/L	100 µg/L	89.7	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	187 µg/L	200 µg/L	93.3	60.0	140	----
		Xylene, o-	95-47-6	E611A	90.1 µg/L	100 µg/L	90.1	60.0	140	----
Hydrocarbons (QCLot: 1690020)										

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: 1690020) - continued										
VA24C5421-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5600 µg/L	6310 µg/L	88.8	60.0	140	----

Environmental Division
Yellowknife
Work Order Reference
YL2401641

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
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	Dissolved Nutrients	Dissolved Metals	Dissolved Mercury
TRCK-240928	TR-CK	28-Sep-24	19:10	Water			G	8	X	X	X		X						
SNP4323-240928	SNP 43-23	28-Sep-24	19:32	Water			G	8	X	X	X		X						
DUP-SNP4323-240928	SNP 43-23	28-Sep-24	19:32	Water			G	8	X	X	X		X						
SNP435-240928	SNP 43-5	28-Sep-24	19:43	Water			G	12	X	X	X	X	X						

Relinquished by (Sampler Signature): Keenan Kakfwi — T. Kakfwi
Date/Time: 2024-October-01 9:01
Company: SLR Consulting

Received by (Name): Simon
Received by (Signature)
Company: ALS
OCT 01/24

SAMPLE CONDITION (lab use only)
Sample Receipt Temperature (deg. C): 3.3
Samples Received in Good Condition? Yes / No (If no, provide details.)
On cooling media: Y / N