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Alpha Analytical

Laboratory Code: 11148

SDG Number: L2453058

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Project Name: CORAM MATERIALS: CLOSED LF
Project Number: 2232.0006Y005

Lab Number: L2453058
Report Date: 09/23/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2453058-01	MW-15R	WATER	416 MILLER PLACE-YAPHANK ROAD	09/16/24 11:15	09/16/24
L2453058-02	MW-1DR	WATER	416 MILLER PLACE-YAPHANK ROAD	09/16/24 12:45	09/16/24
L2453058-03	DUP_091624	WATER	416 MILLER PLACE-YAPHANK ROAD	09/16/24 12:00	09/16/24

Project Name: CORAM MATERIALS: CLOSED LF
Project Number: 2232.0006Y005

Lab Number: L2453058
Report Date: 09/23/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: CORAM MATERIALS: CLOSED LF
Project Number: 2232.0006Y005

Lab Number: L2453058
Report Date: 09/23/24

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L2453058-01, -02, and -03: Sample containers for Volatile Organics and Total Cyanide were received, but not listed on the chain of custody. At the client's request, the Total Cyanide analysis was performed. The Volatile Organics analysis was placed on hold.

L2453058-01, -02, and -03: At the client's request, the analysis of Total Arsenic was performed.

Anions by Ion Chromatography

The WG1974204-6/-7 MS/MSD recoveries, performed on L2453058-01, are outside the acceptance criteria for bromide (86%/84%); however, the associated LCS recovery is within criteria. No further action was taken.

Nitrogen, Ammonia

The WG1973486-5 Laboratory Duplicate RPD for nitrogen, ammonia (29%), performed on L2453058-01, is above the acceptance criteria; however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

Solids, Total Dissolved

The WG1974431-3 Laboratory Duplicate RPD for solids, total dissolved (13%), performed on L2453058-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

The WG1974431-4 Laboratory Duplicate RPD for solids, total dissolved (15%), performed on L2453058-02, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Kelly Stenstrom

Report Date: 09/24/24

Title: Technical Director/Representative

DATA PACKAGE GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenzo(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: DU Report with 'J' Qualifiers



Project Name: CORAM MATERIALS: CLOSED LF
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Data Qualifiers

the identification is based on a mass spectral library search.

- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.
- ND or U** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers





Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 7890 GC/5975C MSD
 Trap: Supelco K Trap (VOACARB 3000)
 Concentrator: EST Encon (or equivalent)
 Autosampler: EST Centurion (or equivalent)
 Purge time: 11 min

Columns (length x ID x df):
 RTX-VMS 20m x 0.18mm x 1um
 RTX-VMS 30m x 0.25mm x 1.4um
 RTX-502.2 40m x 0.18mm x 1um

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)
 Trap: Supelco K Trap (VOACARB 3000)
 Concentrator: EST Encon (or equivalent)
 Autosampler: EST Centurion (or equivalent)

Column Type: Restek RTX 502.2
 Column Length: 105 Meters
 df: 3.00 um
 ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD
 Trap: Supelco K Trap (VOACARB 3000)
 Concentrator: Tekmar Velocity / EST Encon
 Autosampler: Varian Archon / EST Centurion
 Purge time: 11 min

Column Type: DB-VRX
 Column Length: 60 Meters
 df: 1.40 um
 ID: 0.25 mm
 Desorb: 1 min

Volatile Organics: Dissolved Gas

Instrument: Agilent 7890 (or equivalent) with FID/TCD

Column Type: Haysep S Column
 Column Length: 2 Meters packed
 (100/200 mesh)

Autosampler: LEAP Headspace

Purge time: 0.6 min

Volatile Organics in Air Instruments

Volatile Organics in Air:

Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE / QP2020

Concentrator: Entech 7100A or 7200
 Autosampler: Entech 7016CA or 7016D

Column Type: Restek RTX-1
 Column Length: 60 Meters
 df: 1.00 um
 ID: 0.25 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material

Trap 2: Tenax: manufacturer-Entech: 20 cm packing material



Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 μ L; 2 μ L LVI
Column Type: Restek RXI-5SILMS	df: 0.32 μ m
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 μ L; 2 μ L LVI
Column Type: Restek RXI-5SILMS	df: 0.25 μ m
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB/Herbicides:

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1 μ L
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLP Pesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum/EPH:

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1 μ L
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	



Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5	df: 0.25um, 0.18 um
Column Length: 30 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (8081):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8082):

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm



Sample Delivery Group Summary

Alpha Job Number : L2453058

Received : 16-SEP-2024

Reviewer : Maile Kolton

Account Name : Roux Env. Eng. & Geology, DPC

Project Number : 2232.0006Y005

Project Name : CORAM MATERIALS

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	2.9	
B	Absent/	Ice	4.1	
C	Absent/	Ice	3.6	
D	Absent/	Ice	2.8	
E	Absent/	Ice	3.2	
F	Absent/	Ice	3.2	

Condition Information

1) All samples on COC received? **YES**

2) Extra samples received? **NO**

3) Are there any sample container discrepancies? **YES**

L2453058-01A (ARCHIVE) was received in extra container.
L2453058-01A1 (ARCHIVE) was received in extra container.
L2453058-01A2 (ARCHIVE) was received in extra container.
L2453058-01B (ARCHIVE) was received in extra container.
L2453058-01B1 (ARCHIVE) was received in extra container.
L2453058-01B2 (ARCHIVE) was received in extra container.
L2453058-01C (ARCHIVE) was received in extra container.
L2453058-01C1 (ARCHIVE) was received in extra container.
L2453058-01C2 (ARCHIVE) was received in extra container.
L2453058-01J (ARCHIVE) was received in extra container.
L2453058-01J1 (ARCHIVE) was received in extra container.
L2453058-01J2 (ARCHIVE) was received in extra container.
L2453058-02A (ARCHIVE) was received in extra container.
L2453058-02B (ARCHIVE) was received in extra container.
L2453058-02C (ARCHIVE) was received in extra container.
L2453058-02J (ARCHIVE) was received in extra container.
L2453058-03A (ARCHIVE) was received in extra container.
L2453058-03B (ARCHIVE) was received in extra container.
L2453058-03C (ARCHIVE) was received in extra container.
L2453058-03J (ARCHIVE) was received in extra container.



Sample Delivery Group Summary

Alpha Job Number : L2453058

Received : 16-SEP-2024

Reviewer : Maile Kolton

Account Name : Roux Env. Eng. & Geology, DPC

Project Number : 2232.0006Y005

Project Name : CORAM MATERIALS

4) Are there any discrepancies between COC & sample labels?	NO
5) Are samples in appropriate containers for requested analysis?	YES
6) Are samples properly preserved for requested analysis?	YES
7) Are samples within holding time for requested analysis?	YES
8) All sampling equipment returned?	NA

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	NA

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Sep 24 2024, 02:09 pm

Login Number: L2453058

Account: ROUX-NY Roux Env. Eng. & Geology, DPCProject: 2232.0006Y005 416 MILLER PLACE-YAPHANK ROAD, MILLER

Received: 16SEP24 Due Date: 23SEP24

Sample # Client ID Mat PR Collected

L2453058-01 MW-15R

1 S0 16SEP24 11:15

L2453058-01 MS L2453058-01 MSD Only one result per compound. If a sample requires High AND Low Levels, ok to report both as long as each compound is only reported once (can't have a result reported for a compound from both high AND low runs) Matrix description field has to be filled in appropriately for QC, ex: Trip Blank, Field Blank, etc Only one result per compound ASP-B Package Due Date: 09/23/24

AG-6020T, AL-6020T, ALK-T-2320, AS-6020T, ASP-B, B-TI, BA-6020T, BE-6020T, BOD-5210, BR-300, CA-TI, CD-6020T, CL-300, CO-6020T, COD-410-LOW, COLOR-A-2120, CR-6020T, CU-6020T, FE-6020T, HARDT, HEXCR-7196, HG-T, HOLD-8260, K-6020T, MG-TI, MN-6020T, MS/MSD, NA-6020T, NH3-350, NI-6020T, NO3-353, NY-TPHENOL-420, PB-6020T, PREPT, SB-6020T, SE-6020T, SO4-300, TCN-9010, TDS-2540, TKN-351, TL-6020T, TOC-5310, V-6020T, ZN-6020T

L2453058-02 MW-1DR

1 S0 16SEP24 12:45

Only one result per compound. If a sample requires High AND Low Levels, ok to report both as long as each compound is only reported once (can't have a result reported for a compound from both high AND low runs) Matrix description field has to be filled in appropriately for QC, ex: Trip Blank, Field Blank, etc Only one result per compound Package Due Date: 09/23/24

AG-6020T, AL-6020T, ALK-T-2320, AS-6020T, B-TI, BA-6020T, BE-6020T, BOD-5210, BR-300, CA-TI, CD-6020T, CL-300, CO-6020T, COD-410-LOW, COLOR-A-2120, CR-6020T, CU-6020T, FE-6020T, HARDT, HEXCR-7196, HG-T, HOLD-8260, K-6020T, MG-TI, MN-6020T, NA-6020T, NH3-350, NI-6020T, NO3-353, NY-TPHENOL-420, PB-6020T, PREPT, SB-6020T, SE-6020T, SO4-300, TCN-9010, TDS-2540, TKN-351, TL-6020T, TOC-5310, V-6020T, ZN-6020T

L2453058-03 DUP_091624

1 S0 16SEP24 12:00

Only one result per compound. If a sample requires High AND Low Levels, ok to report both as long as each compound is only reported once (can't have a result reported for a compound from both high AND low runs) Matrix description field has to be filled in appropriately for QC, ex: Trip Blank, Field Blank, etc Only one result per compound Package Due Date: 09/23/24

AG-6020T, AL-6020T, ALK-T-2320, AS-6020T, B-TI, BA-6020T, BE-6020T, BOD-5210, BR-300, CA-TI, CD-6020T, CL-300, CO-6020T, COD-410-LOW, COLOR-A-2120, CR-6020T, CU-6020T, FE-6020T, HARDT, HEXCR-7196, HG-T, HOLD-8260, K-6020T, MG-TI, MN-6020T, NA-6020T, NH3-350, NI-6020T, NO3-353, NY-TPHENOL-420, PB-6020T, PREPT, SB-6020T, SE-6020T, SO4-300, TCN-9010, TDS-2540, TKN-351, TL-6020T, TOC-5310, V-6020T, ZN-6020T

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

NEW YORK CHAIN OF CUSTODY

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers

Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1

1 of 2

Date Rec'd
in Lab. 10

in Lab 9/17/24

L2453058
ROUX - NY

23SEP24



Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193		Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Project Information Project Name: CORAM MATERIALS: Closed Landfill Monitoring Project Location: 416 Miller Place-Yaphank Road Project # _____ (Use Project name as Project #) ☐				Deliverables ☐ ASP-A ☒ ASP-B ☐ EQuIS (1 File) ☐ EQuIS (4 File) ☐ Other _____				Billing Information ☐ Same as Client Info PO # _____																																																																																																																																																																																																																																							
Client Information Client: ROUX Env.Eng.&Geology, DPC Address: 209 Shafter Street Islandia, NY 11749-5074 Phone: 631-232-2600 Fax: _____ Email: jmichaels@rouxinc.com				Project Manager: Julia Michaels ALPHAQuote #: 28577 Turn-Around Time Standard ☒ Due Date: _____ Rush (only if pre approved) ☐ # of Days: _____				Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other _____ ☐ NY Unrestricted Use ☐ NYC Sewer Discharge				Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other: _____																																																																																																																																																																																																																																							
These samples have been previously analyzed by Alpha ☐ Other project specific requirements/comments: _____ _____ Please specify Metals or TAL: _____						ANALYSIS <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">CL-300/So4-300/Br-300</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">TOC-5310</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">ALK-T-2320</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">NH3-350</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">BOD-5210</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">Color-A-2120</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">COD-410-LOW</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">HARD-T</td> <td colspan="2" style="text-align: center;"> ☒ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below) </td> </tr> <tr> <td colspan="2" style="text-align: center;">Sample Specific Comments</td> </tr> </table>				CL-300/So4-300/Br-300	TOC-5310	ALK-T-2320	NH3-350	BOD-5210	Color-A-2120	COD-410-LOW	HARD-T	☒ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)		Sample Specific Comments																																																																																																																																																																																																																															
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Preservative Code: A = None B = HCl C = HNO3 D = H2SO4 E = NaOH F = MeOH G = NaHSO4 H = Na2S2O3 K/E = Zn Ac/NaOH O = Other		Container Code: P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type Preservative		Relinquished By: _____ Date/Time: 9/16/24 15:15 Received By: _____ Date/Time: 9/16/24 15:16		Please print clearly, legibly and completely. Samples cannot be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS.																																																																																																																																																																																																																																									
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Metals

Inorganic Data (ICP Analysis)

Form 1

METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 11:05
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6010D	Analyst	: TAA
Lab File ID	: WG1973931.pdf	Instrument ID	: TRACE4
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Hardness	58.8	0.660	NA	
7440-42-8	Boron, Total	0.0130	0.0300	0.0016	J
7440-70-2	Calcium, Total	18.2	0.100	0.0350	
7439-95-4	Magnesium, Total	3.26	0.100	0.0153	

Form 1

METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973498-1	Date Collected	: NA
Client ID	: WG1973498-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/20/24 10:40
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6010D	Analyst	: TAA
Lab File ID	: WG1973931.pdf	Instrument ID	: TRACE4
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Hardness	ND	0.660	NA	U
7440-42-8	Boron, Total	0.0057	0.0300	0.0016	J
7440-70-2	Calcium, Total	ND	0.100	0.0350	U
7439-95-4	Magnesium, Total	ND	0.100	0.0153	U



Form 1

METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973498-6	Date Collected	:
Client ID	: Serial Dilution	Date Received	:
Sample Location	:	Date Analyzed	: 09/20/24 11:30
Sample Matrix	: WATER	Dilution Factor	: 5
Analytical Method	: 1,6010D	Analyst	: TAA
Lab File ID	: WG1973931.pdf	Instrument ID	: TRACE4
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-70-2	Calcium, Total	18.7	0.500	0.175	
7439-95-4	Magnesium, Total	3.31	0.500	0.077	
NONE	Hardness	60.3	3.30	NA	

Form 1

METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 21:18
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6010D	Analyst	: CEY
Lab File ID	: WG1974423.pdf	Instrument ID	: TRACE4
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Hardness	71.9	0.660	NA	
7440-42-8	Boron, Total	0.0216	0.0300	0.0016	J
7440-70-2	Calcium, Total	18.5	0.100	0.0350	
7439-95-4	Magnesium, Total	6.24	0.100	0.0153	

Form 1 METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 22:11
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6010D	Analyst	: CEY
Lab File ID	: WG1974423.pdf	Instrument ID	: TRACE4
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Hardness	74.1	0.660	NA	
7440-42-8	Boron, Total	0.0216	0.0300	0.0016	J
7440-70-2	Calcium, Total	19.3	0.100	0.0350	
7439-95-4	Magnesium, Total	6.29	0.100	0.0153	

Form 2A

Initial and Continuing Calibration Verification

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : TRACE4 Units : mg/l

Parameter	Lab ID : Date Analyzed :	Initial Calibration			Continuing Calibration(s)						
		True	Found	%R	True	Found	%R	Found	%R	Found	%R
Boron		0.500	0.5100	102							
Calcium		0.500	0.4990	100							
Magnesium		0.500	0.5070	101							

Acceptance Criteria:

ICV: 95-105% (Methods 200.7, 245.1)
 90-110% (Methods 200.8, 6010, 6020, 7470, 7471, 7474)
 85-115% (Method 1631)

CCV: 90-110% (Methods 200.7, 245.1, 6010, 6020, 7474)
 85-115% (Methods 200.8, 1631)
 80-120% (Methods 7470, 7471)



Form 2A

Initial and Continuing Calibration Verification

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : TRACE4 Units : mg/l

Parameter	Initial Calibration			Continuing Calibration(s)						
	Lab ID	: R1878315-3		R1878315-6			R1878315-8			
	Date Analyzed	: 09/19/24 18:04		09/20/24 10:28			09/20/24 11:37			
	True	Found	%R	True	Found	%R	Found	%R	Found	%R
Boron	0.500	0.5020	100	0.5000	0.519	104	0.506	101		
Calcium	0.500	0.5130	103	0.5000	0.511	102	0.512	102		
Magnesium	0.500	0.5040	101	0.5000	0.518	104	0.510	102		

Acceptance Criteria:

ICV: 95-105% (Methods 200.7, 245.1)
 90-110% (Methods 200.8, 6010, 6020, 7470, 7471, 7474)
 85-115% (Method 1631)

CCV: 90-110% (Methods 200.7, 245.1, 6010, 6020, 7474)
 85-115% (Methods 200.8, 1631)
 80-120% (Methods 7470, 7471)



Form 2A

Initial and Continuing Calibration Verification

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : TRACE4 Units : mg/l

Parameter	Initial Calibration			Continuing Calibration(s)					
	True	Found	%R	True	Found	%R	Found	%R	Found
Boron	0.500	0.4840	97						
Calcium	0.500	0.5090	102						
Magnesium	0.500	0.5010	100						

Acceptance Criteria:

ICV: 95-105% (Methods 200.7, 245.1)
 90-110% (Methods 200.8, 6010, 6020, 7470, 7471, 7474)
 85-115% (Method 1631)

CCV: 90-110% (Methods 200.7, 245.1, 6010, 6020, 7474)
 85-115% (Methods 200.8, 1631)
 80-120% (Methods 7470, 7471)



Form 2A

Initial and Continuing Calibration Verification

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : TRACE4 Units : mg/l

Parameter	Lab ID : Date Analyzed :	Initial Calibration			Continuing Calibration(s)						
		R1879092-3			R1879092-6			R1879092-8		R1879092-10	
		09/20/24 17:33			09/20/24 19:24			09/20/24 20:36		09/20/24 21:56	
		True	Found	%R	True	Found	%R	Found	%R	Found	%R
Boron		0.500	0.4800	96	0.5000	0.487	97	0.475	95	0.468	94
Calcium		0.500	0.5040	101	0.5000	0.525	105	0.503	101	0.495	99
Magnesium		0.500	0.5020	100	0.5000	0.517	103	0.503	101	0.493	99

Acceptance Criteria:

ICV: 95-105% (Methods 200.7, 245.1)
 90-110% (Methods 200.8, 6010, 6020, 7470, 7471, 7474)
 85-115% (Method 1631)

CCV: 90-110% (Methods 200.7, 245.1, 6010, 6020, 7474)
 85-115% (Methods 200.8, 1631)
 80-120% (Methods 7470, 7471)



Form 2A

Initial and Continuing Calibration Verification

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : TRACE4 Units : mg/l

Parameter	Initial Calibration			Continuing Calibration(s)						
	True	Found	%R	True	Found	%R	Found	%R	Found	%R
Boron				0.5000	0.465	93				
Calcium				0.5000	0.514	103				
Magnesium				0.5000	0.497	99				

Acceptance Criteria:

ICV: 95-105% (Methods 200.7, 245.1)
 90-110% (Methods 200.8, 6010, 6020, 7470, 7471, 7474)
 85-115% (Method 1631)

CCV: 90-110% (Methods 200.7, 245.1, 6010, 6020, 7474)
 85-115% (Methods 200.8, 1631)
 80-120% (Methods 7470, 7471)



Form 3 Blanks

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : TRACE4

Parameter	Initial Calibration		Continuing Calibration				Preparation	
	Blank		Blank(s)				Blank	
Lab ID :	R1878315-2		R1878315-7 R1878315-9				WG1973498-1	
Date Analyzed :	09/19/24 17:58		09/20/24 10:34 09/20/24 11:43				09/20/24 10:40	
	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q
Boron	0.00160	U	0.00958	J	0.00166	J	0.0057	J
Calcium	0.0350	U	0.0350	U	0.0350	U	0.0350	U
Hardness							0.660	U
Magnesium	0.0153	U	0.0153	U	0.0153	U	0.0153	U



Form 3 Blanks

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID :

		Initial Calibration Blank	Continuing Calibration Blank(s)	Preparation Blank
Lab ID : R1878315-4				
Date Analyzed: 09/19/24 18:10				
Parameter	mg/l	Q	Q	Q
Boron	0.00160	U		
Calcium	0.0350	U		
Magnesium	0.0153	U		



Form 3 Blanks

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : TRACE4

Parameter	Initial Calibration Blank		Continuing Calibration Blank(s)				Preparation Blank	
	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q
Lab ID :	R1879092-2		R1879092-7		R1879092-9		R1879092-11	
Date Analyzed :	09/20/24 17:27		09/20/24 19:30		09/20/24 20:42		09/20/24 22:02	
Boron	0.00160	U	0.00912	J	0.00160	U	0.00160	U
Calcium	0.0350	U	0.0350	U	0.0350	U	0.0350	U
Magnesium	0.0153	U	0.0153	U	0.0153	U	0.0153	U



Form 3 Blanks

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : TRACE4

Parameter	Initial Calibration Blank		Continuing Calibration Blank(s)				Preparation Blank	
	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q
Boron	0.00160	U	0.00160	U				
Calcium	0.0350	U	0.0350	U				
Magnesium	0.0153	U	0.0153	U				

Form 4a Interference Check Sample

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : TRACE4 Concentration Units : mg/l

Analyte	True		Initial Found				Final Found			
	Lab ID :		R1878315-5							
	Analysis Date :		09/19/24 18:32							
	Sol.	Sol.	Sol.		Sol.		Sol.		Sol.	
	A	AB	A	%R	AB	%R	A	%R	AB	%R
Boron			-0.0121							
Calcium	500		558.	112						
Magnesium	500		471.	94						

Acceptance Criteria: Methods 200.7, 200.8, 6010, 6020

ICSA: 80-120%

ICSAB: 80-120%



Form 4a Interference Check Sample

Client : Roux Env. Eng. & Geology, DPC **Lab Number** : L2453058
Project Name : CORAM MATERIALS: CLOSED LF **Project Number** : 2232.0006Y005
Instrument ID : TRACE4 **Concentration Units** : mg/l

Analyte	True		Initial Found				Final Found			
	Lab ID : Analysis Date :		R1879092-5 09/20/24 17:52							
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Boron			-0.0116							
Calcium	500		555.	111						
Magnesium	500		466.	93						

Acceptance Criteria: Methods 200.7, 200.8, 6010, 6020

ICSA: 80-120%

ICSAB: 80-120%



Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC	Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF	Project Number : 2232.0006Y005
Client Sample ID : MW-15R	Matrix : WATER
Lab Sample ID : L2453058-01	
Matrix Spike : WG1973498-3	MS Analysis Date : 09/20/24 11:12
Matrix Spike Dup : WG1973498-4	MSD Analysis Date : 09/20/24 11:18

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample			Matrix Spike Duplicate			RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Spike Added (mg/l)	Spike Conc. (mg/l)	%R			
Hardness	58.8	66.2	127.	103	66.2	131.	109	3	75-125	20
Boron, Total	0.0130J	1	1.01	101	1	1.05	105	4	75-125	20
Calcium, Total	18.2	10	28.2	100	10	29.1	109	3	75-125	20
Magnesium, Total	3.26	10	13.7	104	10	14.1	108	3	75-125	20

Form 7 Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : NA Lab Sample ID : WG1973498-2 Dup Sample ID :	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER LCS Analysis Date : 09/20/24 10:46 LCSD Analysis Date :

Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Hardness	66.2	71.3	108.					80-120	20
Boron, Total	1.00	1.02	102.					80-120	20
Calcium, Total	10.0	10.6	106.					80-120	20
Magnesium, Total	10.0	10.9	109.					80-120	20

Form 8 Serial Dilutions

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : MW-15R Lab Sample ID : L2453058-01 Serial Dilution ID : WG1973498-6	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER Analysis Date : 09/20/24 11:05 Analysis Date : 09/20/24 11:30

Parameter	Initial Sample Result (mg/l)	Serial Dilution Result (mg/l)	% Difference	%D Limit
Calcium, Total	18.2	18.7	3	20
Magnesium, Total	3.26	3.31	2	20
Hardness	58.8	60.3	3	20

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10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument: TRACE4 Date: 12/01/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	___
Aluminum	396.15	0.0000000	0.0000020	-0.0000310	-0.0000090	
Antimony	206.83	-0.0000020	0.0000040	-0.0000110	-0.0000050	
Arsenic	189.04	0.0000090	-0.0000010	-0.0000700	0.0000000	
Barium	455.40	-0.0000040	-0.0000020	-0.0000110	-0.0000010	
Beryllium	313.40	-0.0000020	-0.0000020	-0.0000050	0.0000000	
Cadmium	214.44	0.0000000	-0.0000030	0.0000000	-0.0000010	
Calcium	315.89	0.0000780	0.0000000	-0.0000170	0.0000710	
Chromium	267.72	0.0000050	-0.0000020	0.0000120	0.0000000	
Cobalt	228.62	-0.0000120	-0.0000060	-0.0000250	-0.0000020	
Copper	324.75	-0.0000030	-0.0000020	-0.0000040	0.0000110	
Iron	259.94	0.0000180	-0.0000120	0.0000000	-0.0000030	
Lead	220.35	0.0001100	-0.0000010	0.0000180	-0.0000010	
Magnesium	279.08	-0.0000540	-0.0000280	0.0000190	0.0000000	
Manganese	257.61	-0.0000030	-0.0000020	-0.0000080	0.0000020	
Mercury						
Nickel	231.60	-0.0000130	-0.0000050	-0.0000240	-0.0000020	
Potassium	766.49	-0.0012590	-0.0007040	-0.0028490	-0.0002350	
Selenium	196.09	-0.0000200	0.0000000	-0.0000290	-0.0000010	
Silver	328.07	-0.0000040	-0.0000020	-0.0000090	-0.0000010	
Sodium	589.59	-0.0006160	-0.0005220	-0.0020960	-0.0001600	
Thallium	190.86	-0.0000060	-0.0000040	-0.0000050	-0.0000010	
Vanadium	292.40	-0.0000050	-0.0000030	0.0000100	-0.0000020	
Zinc	206.20	0.0002750	0.0000030	-0.0007990	-0.0000040	

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument ID: TRACE4 Date: 12/01/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Sb	As	Ba	Be	Cd
Aluminum	396.15	0.0000000	0.0000000	0.0000000	-0.0022950	-0.0018570
Antimony	206.83	0.0000000	0.0000000	0.0000000	-0.0003900	-0.0000120
Arsenic	189.04	0.0000000	0.0000000	0.0000210	-0.0001780	-0.0001730
Barium	455.40	0.0000000	0.0000000	0.0000000	-0.0002050	-0.0002030
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000860
Cadmium	214.44	0.0000000	0.0000000	0.0000000	-0.0002090	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	-0.0020880	-0.0018790
Chromium	267.72	0.0000000	0.0000000	0.0000000	-0.0002010	-0.0003100
Cobalt	228.62	0.0000000	0.0000000	0.0000000	-0.0004810	-0.0004970
Copper	324.75	0.0000000	0.0000000	0.0000000	-0.0002330	-0.0002260
Iron	259.94	0.0000000	0.0000000	0.0000000	-0.0012310	-0.0009570
Lead	220.35	0.0000000	0.0000000	0.0000000	-0.0001700	-0.0001850
Magnesium	279.08	0.0000000	0.0000000	0.0000000	-0.0022440	-0.0017830
Manganese	257.61	0.0000000	0.0000000	0.0000000	-0.0001950	-0.0002020
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	-0.0005490	-0.0005200
Potassium	766.49	0.0000000	0.0000000	0.0000000	-0.0522980	-0.0517110
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000060	0.0000030
Silver	328.07	0.0000000	0.0000000	0.0000000	-0.0001740	-0.0001560
Sodium	589.59	0.0000000	0.0000000	0.0000000	-0.0417330	-0.0407400
Thallium	190.86	0.0000000	0.0000000	0.0000000	-0.0002650	-0.0002240
Vanadium	292.40	0.0000000	0.0000000	0.0000000	-0.0002090	-0.0002040
Zinc	206.20	0.0000000	0.0000000	0.0000000	-0.0000320	-0.0009250

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument ID: TRACE4 Date: 12/01/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Cr	Co	Cu	Pb	Mn
Aluminum	396.15	-0.0020320	-0.0005350	-0.0005960	0.0000000	-0.0003930
Antimony	206.83	0.0049920	-0.0001600	-0.0001410	0.0000000	-0.0001780
Arsenic	189.04	0.0002670	-0.0001290	-0.0000570	0.0000000	-0.0000030
Barium	455.40	-0.0002000	-0.0000500	-0.0000660	0.0000000	-0.0000350
Beryllium	313.40	-0.0000900	-0.0000220	-0.0000300	0.0000000	-0.0000110
Cadmium	214.44	-0.0000290	-0.0000520	-0.0000680	0.0000000	-0.0000270
Calcium	315.89	-0.0020720	0.0009940	-0.0005720	0.0000000	-0.0000920
Chromium	267.72	0.0000000	-0.0000480	-0.0000690	0.0000000	0.0001140
Cobalt	228.62	-0.0005870	0.0000000	-0.0001660	0.0000000	-0.0000740
Copper	324.75	-0.0002130	-0.0000490	0.0000000	0.0000000	0.0000300
Iron	259.94	-0.0010370	-0.0002940	-0.0003760	0.0000000	-0.0001890
Lead	220.35	-0.0001960	-0.0003260	0.0002710	0.0000000	0.0000640
Magnesium	279.08	-0.0024620	-0.0005640	-0.0008730	0.0000000	-0.0069760
Manganese	257.61	-0.0002060	-0.0000480	-0.0000750	0.0000000	0.0000000
Mercury						
Nickel	231.60	-0.0005230	-0.0002210	-0.0001810	0.0000000	-0.0000730
Potassium	766.49	-0.0512430	-0.0126240	-0.0178480	0.0000000	-0.0089880
Selenium	196.09	-0.0000520	0.0000530	-0.0000240	0.0000000	0.0003780
Silver	328.07	-0.0001430	-0.0000370	-0.0000450	0.0000000	0.0001940
Sodium	589.59	-0.0407180	-0.0097580	-0.0137660	0.0000000	-0.0070470
Thallium	190.86	-0.0000390	0.0020440	-0.0000840	-0.0000200	0.0003990
Vanadium	292.40	-0.0002210	-0.0000500	-0.0000650	0.0000000	0.0001060
Zinc	206.20	-0.0012900	0.0000070	0.0003430	0.0001200	-0.0001520

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument ID: TRACE4 Date: 12/01/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Ni	K	Se	Ag	Na
Aluminum	396.15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument: TRACE5 Date: 12/01/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	Mo
Aluminum	396.15	0.0000000	0.0000960	0.0000000	0.0000000	0.0573510
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0016160
Arsenic	189.04	-0.0000310	0.0000000	0.0000000	0.0000000	0.0009550
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000010	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0009910
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000120
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0004030
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0003010	0.0000000	0.0000210	0.0000000	-0.0026290
Magnesium	279.08	0.0000000	0.0000000	0.0001760	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000340	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000000	0.0000180
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000310	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument ID: TRACE5 Date: 12/01/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Sb	As	Ba	Be	Cd
Aluminum	396.15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument ID: TRACE5 Date: 12/01/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Cr	Co	Cu	Pb	Mn
Aluminum	396.15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0114090	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0003850	-0.0000480	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0007800	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	-0.0092850
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	-0.0001620	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000620	0.0000000	0.0000000	0.0006770
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	-0.0019910	0.0000000	0.0000000	0.0000000	-0.0004360
Zinc	206.20					

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument ID: TRACE5 Date: 12/01/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Ni	K	Se	Ag	Na
Aluminum	396.15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000930	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0002270	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	-0.0003390	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____

Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____

ICP-AES Instrument ID: TRACE5 Date: 12/01/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Tl	V	Zn		
Aluminum	396.15	0.0000000	0.0000000	0.0000000		
Antimony	206.83	0.0000000	0.0000000	0.0000000		
Arsenic	189.04	0.0000000	0.0000000	0.0000000		
Barium	455.40	0.0000000	0.0000000	0.0000000		
Beryllium	313.40	0.0000000	0.0018940	0.0000000		
Cadmium	214.44	0.0000000	0.0000000	0.0000000		
Calcium	315.89	0.0000000	0.0000000	0.0000000		
Chromium	267.72	0.0000000	0.0000000	0.0000000		
Cobalt	228.62	0.0017990	0.0000000	0.0000000		
Copper	324.75	0.0000000	-0.0003720	0.0000000		
Iron	259.94	0.0000000	0.0000000	0.0000000		
Lead	220.35	0.0000000	-0.0001170	0.0000000		
Magnesium	279.08	0.0000000	0.0000000	0.0000000		
Manganese	257.61	0.0000000	0.0000000	0.0000000		
Mercury						
Nickel	231.60	0.0005790	0.0000000	0.0000000		
Potassium	766.49	0.0000000	0.0000000	0.0000000		
Selenium	196.09	0.0000000	0.0000000	0.0000000		
Silver	328.07	0.0000000	-0.0017200	0.0000000		
Sodium	589.59	0.0000000	0.0000000	0.0000000		
Thallium	190.86	0.0000000	0.0002820	0.0000000		
Vanadium	292.40	0.0000000	0.0000000	0.0000000		
Zinc	206.20	0.0000000	0.0000000	0.0000000		

Comments:

U.S. EPA - CLP
10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument: TRACE6 Date: 11/10/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	Mo
Aluminum	396.15	0.0000000	0.0000960	0.0000000	0.0000000	0.0573510
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0016160
Arsenic	189.04	-0.0000310	0.0000000	0.0000000	0.0000000	0.0009550
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000010	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0009910
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000120
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0004030
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0003010	0.0000000	0.0000210	0.0000000	-0.0026290
Magnesium	279.08	0.0000000	0.0000000	0.0001760	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000340	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000000	0.0000180
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000310	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____

Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____

ICP-AES Instrument ID: TRACE6 Date: 11/10/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Sb	As	Ba	Be	Cd
Aluminum	396.15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument ID: TRACE6 Date: 11/10/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Cr	Co	Cu	Pb	Mn
Aluminum	396.15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0114090	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0003850	-0.0000480	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0007800	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	-0.0092850
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	-0.0001620	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000620	0.0000000	0.0000000	0.0006770
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	-0.0019910	0.0000000	0.0000000	0.0000000	-0.0004360
Zinc	206.20					

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument ID: TRACE6 Date: 11/10/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Ni	K	Se	Ag	Na
Aluminum	396.15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000930	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0002270	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	-0.0003390	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument ID: TRACE6 Date: 11/10/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Tl	V	Zn		
Aluminum	396.15	0.0000000	0.0000000	0.0000000		
Antimony	206.83	0.0000000	0.0000000	0.0000000		
Arsenic	189.04	0.0000000	0.0000000	0.0000000		
Barium	455.40	0.0000000	0.0000000	0.0000000		
Beryllium	313.40	0.0000000	0.0018940	0.0000000		
Cadmium	214.44	0.0000000	0.0000000	0.0000000		
Calcium	315.89	0.0000000	0.0000000	0.0000000		
Chromium	267.72	0.0000000	0.0000000	0.0000000		
Cobalt	228.62	0.0017990	0.0000000	0.0000000		
Copper	324.75	0.0000000	-0.0003720	0.0000000		
Iron	259.94	0.0000000	0.0000000	0.0000000		
Lead	220.35	0.0000000	-0.0001170	0.0000000		
Magnesium	279.08	0.0000000	0.0000000	0.0000000		
Manganese	257.61	0.0000000	0.0000000	0.0000000		
Mercury						
Nickel	231.60	0.0005790	0.0000000	0.0000000		
Potassium	766.49	0.0000000	0.0000000	0.0000000		
Selenium	196.09	0.0000000	0.0000000	0.0000000		
Silver	328.07	0.0000000	-0.0017200	0.0000000		
Sodium	589.59	0.0000000	0.0000000	0.0000000		
Thallium	190.86	0.0000000	0.0002820	0.0000000		
Vanadium	292.40	0.0000000	0.0000000	0.0000000		
Zinc	206.20	0.0000000	0.0000000	0.0000000		

Comments:

U.S. EPA - CLP
10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument: TRACE7 Date: 05/17/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	Mo
Aluminum	396.15	0.0000000	0.0000960	0.0000000	0.0000000	0.0573510
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0016160
Arsenic	189.04	0.0001500	0.0000000	-0.0004550	0.0000000	0.0038670
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000380	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0009910
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000120
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0004030
Iron	259.94	0.0000000	0.0000000	0.0000340	0.0000000	0.0000000
Lead	220.35	0.0001750	0.0000000	0.0002100	0.0000000	-0.0026290
Magnesium	279.08	0.0000000	0.0000000	0.0001760	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	-0.0000350	0.0000000	0.0000000	0.0000000	0.0000180
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000100	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____

Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____

ICP-AES Instrument: TRACE7 Date: 05/17/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Sb	As	Ba	Be	Cd
Aluminum	396.15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument: TRACE7 Date: 05/17/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Cr	Co	Cu	Pb	Mn
Aluminum	396.15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0114090	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0017890	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0007800	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	-0.0092850
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	-0.0001620	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000620	0.0000000	0.0000000	0.0006770
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	-0.0019910	0.0000000	0.0000000	0.0000000	-0.0004360
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument: TRACE7 Date: 05/17/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Ni	K	Se	Ag	Na
Aluminum	396.15	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	214.44	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	315.89	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000930	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0002270	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	-0.0003390	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.09	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

U.S. EPA - CLP
10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Alpha Analytical Contract: _____
 Lab Code: AAL Case No.: _____ NRAS No.: _____ SDG No.: _____
 ICP-AES Instrument: TRACE7 Date: 05/17/16

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Tl	V	Zn		
Aluminum	396.15	0.0000000	0.0000000	0.0000000		
Antimony	206.83	0.0000000	0.0000000	0.0000000		
Arsenic	189.04	0.0000000	0.0000000	0.0000000		
Barium	455.40	0.0000000	0.0000000	0.0000000		
Beryllium	313.40	0.0000000	0.0018940	0.0000000		
Cadmium	214.44	0.0000000	0.0000000	0.0000000		
Calcium	315.89	0.0000000	0.0000000	0.0000000		
Chromium	267.72	0.0000000	0.0000000	0.0000000		
Cobalt	228.62	0.0017990	0.0000000	0.0000000		
Copper	324.75	0.0000000	0.0000000	0.0000000		
Iron	259.94	0.0000000	0.0000000	0.0000000		
Lead	220.35	0.0000000	-0.0001170	0.0000000		
Magnesium	279.08	0.0000000	0.0000000	0.0000000		
Manganese	257.61	0.0000000	0.0000000	0.0000000		
Mercury						
Nickel	231.60	0.0005790	0.0000000	0.0000000		
Potassium	766.49	0.0000000	0.0000000	0.0000000		
Selenium	196.09	0.0000000	0.0000000	0.0000000		
Silver	328.07	0.0000000	0.0000000	0.0000000		
Sodium	589.59	0.0000000	0.0000000	0.0000000		
Thallium	190.86	0.0000000	0.0000000	0.0000000		
Vanadium	292.40	0.0011610	0.0000000	0.0000000		
Zinc	206.20	0.0000000	0.0000000	0.0000000		

Comments:

EPA 200.7, EPA 6010D		Linear Dynamic Range					
		All values are in mg/L and are 90% of the established LDR concentration.					
Instrument ID:		Trace 4	Trace 5	Trace 6	Trace 7	Trace 8	Trace 9
2023 Complete		☐	☐	☐	☐	☐	☐
Ag	Silver	36	27	9	13	90	45
Al	Aluminum	900	540	450	900	900	900
As	Arsenic	90	54	90	72	180	90
B	Boron	90	90	9	45	90	54
Ba	Barium	90	27	18	13	135	27
Be	Beryllium	27	36	9	9	11	31
Ca	Calcium	450	900	675	900	900	900
Cd	Cadmium	11	9	9	11	27	18
Co	Cobalt	90	63	45	22	135	90
Cr	Chromium	45	63	9	45	157	90
Cu	Copper	90	54	45	45	90	67
Fe	Iron	630	900	450	450	540	540
K	Potassium	900	900	675	720	900	900
Mg	Magnesium	450	900	360	900	900	900
Mn	Manganese	90	31	90	67	90	90
Mo	Molybdenum	45	36	9	22	67	45
Na	Sodium	675	900	450	405	630	900
Ni	Nickel	90	45	45	22	135	90
Pb	Lead	180	180	90	90	225	90
S	Sulfur	-	90	-	-	-	-
Sb	Antimony	22	45	45	4.5	90	45
Se	Selenium	27	27	45	22	15	45
Si	Silica	45	90	22	22	90	45
Sn	Tin	45	45	13	22	72	45
Sr	Strontium	45	45	9	9	67	45
Ti	Titanium	45	90	9	90	72	45
Tl	Thallium	45	90	45	22	135	45
V	Vanadium	90	90	90	90	112	45
Zn	Zinc	45	27	45	22	63	22

Form 12

Preparation Log

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
Matrix : WATER Prep Method : EPA 3005A

Sample Number	Preparation Date	Weight (gram)	Volume (mL)
L2453058-01	09/19/24 04:23	-	50
WG1973498-1	09/19/24 04:23	-	50
WG1973498-2	09/19/24 04:23	-	50
WG1973498-3	09/19/24 04:23	-	50
WG1973498-4	09/19/24 04:23	-	50
WG1973498-6	09/19/24 04:23	-	50

Form 12

Preparation Log

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
Matrix : WATER Prep Method : EPA 3005A

Sample Number	Preparation Date	Weight (gram)	Volume (mL)
L2453058-02	09/19/24 04:23	-	50
L2453058-03	09/19/24 04:23	-	50



Form 13

Analysis Run Log

Client : Roux Env. Eng. & Geology, DPC
Project Name : CORAM MATERIALS: CLOSED LF
Instrument ID : TRACE4
Start Date : 09/19/24 17:52

Lab Number : L2453058
Project Number : 2232.0006Y005
Analysis Method : 1,6010D
End Date : 09/20/24 11:43

[illegible]

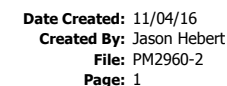
Form 13

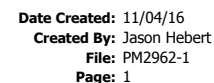
Analysis Run Log

Client : Roux Env. Eng. & Geology, DPC
Project Name : CORAM MATERIALS: CLOSED LF
Instrument ID : TRACE4
Start Date : 09/20/24 17:21

Lab Number : L2453058
Project Number : 2232.0006Y005
Analysis Method : 1,6010D
End Date : 09/20/24 22:38

[illegible]

[illegible]

[illegible]

Westborough, MA • Mansfield, MA • Bangor, ME • Portsmouth, NH • Mahwah, NJ • Albany, NY • Buffalo, NY • Holmes, PA



ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: Blank TAA Trace4
 Analysis started at: 9/19/2024 5:10:25 PM
 Comments: <Comment>
 Rack: 0
 Vial: 1

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration per Run	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration RSD	-1.4 %	-1.2 %	0.6 %	0.1 %	0.1 %	-0.6 %	0.1 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration per Run	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration RSD	-0.5 %	-0.1 %	0.3 %	0.0 %	0.3 %	0.3 %	-1.1 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration per Run	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration RSD	0.3 %	0.2 %	0.3 %	-2.3 %	-0.1 %	-0.2 %	-0.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration per Run	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration RSD	-0.2 %	0.0 %	0.1 %	-0.1 %	-0.4 %	-0.2 %	-0.1 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0000 ppm	100.0000 %	100.0000 %	100.0000 %	100.0000 %	100.0000 %	100.0000 %
Concentration per Run	0.0000 ppm	100.0000 %	100.0000 %	100.0000 %	100.0000 %	100.0000 %	100.0000 %
Concentration RSD	2.4 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: ICAL
 Analysis started at: 9/19/2024 5:16:48 PM
 Comments: <Comment>
 Rack: 0
 Vial: 2

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	1.0000 ppm	25.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm	10.0000 ppm
Concentration per Run 1	0.9962 ppm	24.6288 ppm	0.9996 ppm	0.9978 ppm	0.9859 ppm	0.9869 ppm	9.8671 ppm
Concentration per Run 2	0.9998 ppm	25.2422 ppm	1.0007 ppm	1.0013 ppm	1.0076 ppm	1.0092 ppm	10.0797 ppm
Concentration per Run 3	1.0039 ppm	25.1289 ppm	0.9998 ppm	1.0009 ppm	1.0064 ppm	1.0038 ppm	10.0532 ppm
Concentration RSD	0.4 %	1.3 %	0.1 %	0.2 %	1.2 %	1.2 %	1.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	1.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm	25.0000 ppm	35.0000 ppm	1.0000 ppm
Concentration per Run 1	0.9977 ppm	0.9980 ppm	1.0017 ppm	0.9965 ppm	24.6857 ppm	34.4465 ppm	0.9804 ppm
Concentration per Run 2	1.0007 ppm	0.9998 ppm	1.0041 ppm	1.0040 ppm	25.2226 ppm	35.2543 ppm	1.0105 ppm
Concentration per Run 3	1.0016 ppm	1.0022 ppm	0.9942 ppm	0.9995 ppm	25.0917 ppm	35.2993 ppm	1.0091 ppm
Concentration RSD	0.2 %	0.2 %	0.5 %	0.4 %	1.1 %	1.4 %	1.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	10.0000 ppm	1.0000 ppm	1.0000 ppm	25.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm
Concentration per Run 1	10.0159 ppm	0.9867 ppm	1.0003 ppm	24.5679 ppm	1.0003 ppm	0.9966 ppm	0.9997 ppm
Concentration per Run 2	9.9826 ppm	1.0056 ppm	0.9974 ppm	25.2525 ppm	0.9995 ppm	1.0007 ppm	0.9992 ppm
Concentration per Run 3	10.0015 ppm	1.0076 ppm	1.0023 ppm	25.1797 ppm	1.0003 ppm	1.0026 ppm	1.0011 ppm
Concentration RSD	0.2 %	1.2 %	0.3 %	1.5 %	0.0 %	0.3 %	0.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	1.0000 ppm	10.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm
Concentration per Run 1	0.9948 ppm	9.9956 ppm	0.9967 ppm	0.9861 ppm	0.9997 ppm	1.0001 ppm	1.0004 ppm
Concentration per Run 2	1.0006 ppm	9.9932 ppm	1.0016 ppm	1.0084 ppm	1.0052 ppm	1.0012 ppm	1.0053 ppm
Concentration per Run 3	1.0046 ppm	10.0112 ppm	1.0018 ppm	1.0055 ppm	0.9951 ppm	0.9987 ppm	0.9943 ppm
Concentration RSD	0.5 %	0.1 %	0.3 %	1.2 %	0.5 %	0.1 %	0.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	1.0000 ppm	98.9475 %	97.3307 %	98.1787 %	98.4167 %	90.9934 %	96.9715 %
Concentration per Run 1	0.9979 ppm	99.7662 %	97.2749 %	98.2623 %	99.9660 %	90.9835 %	96.9697 %
Concentration per Run 2	0.9996 ppm	98.5477 %	97.4110 %	98.2809 %	97.6254 %	91.2362 %	96.6799 %
Concentration per Run 3	1.0025 ppm	98.5285 %	97.3061 %	97.9929 %	97.6588 %	90.7604 %	97.2649 %
Concentration RSD	0.2 %	0.7 %	0.1 %	0.2 %	1.4 %	0.3 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: ICV
 Analysis started at: 9/19/2024 5:52:16 PM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5115 ppm	0.4994 ppm	0.4965 ppm	0.5104 ppm	0.4934 ppm	0.5011 ppm	0.4990 ppm
Concentration per Run 1	0.5106 ppm	0.4936 ppm	0.4960 ppm	0.5087 ppm	0.4845 ppm	0.4930 ppm	0.4918 ppm
Concentration per Run 2	0.5145 ppm	0.5003 ppm	0.4964 ppm	0.5104 ppm	0.4976 ppm	0.5058 ppm	0.5034 ppm
Concentration per Run 3	0.5095 ppm	0.5044 ppm	0.4971 ppm	0.5122 ppm	0.4980 ppm	0.5045 ppm	0.5017 ppm
Recovery Percentage 1	102.307 %	99.883 %	99.303 %	102.083 %	98.674 %	100.219 %	99.792 %
Concentration RSD	0.5 %	1.1 %	0.1 %	0.3 %	1.6 %	1.4 %	1.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.5053 ppm	0.5144 ppm	0.4909 ppm	0.4835 ppm	0.4921 ppm	5.1824 ppm	0.4896 ppm
Concentration per Run 1	0.5052 ppm	0.5133 ppm	0.4878 ppm	0.4804 ppm	0.4841 ppm	5.1074 ppm	0.4779 ppm
Concentration per Run 2	0.5057 ppm	0.5139 ppm	0.4928 ppm	0.4855 ppm	0.4950 ppm	5.1957 ppm	0.4926 ppm
Concentration per Run 3	0.5049 ppm	0.5158 ppm	0.4922 ppm	0.4845 ppm	0.4972 ppm	5.2440 ppm	0.4983 ppm
Recovery Percentage 1	101.050 %	102.872 %	98.185 %	96.698 %	98.423 %	103.647 %	97.921 %
Concentration RSD	0.1 %	0.3 %	0.6 %	0.6 %	1.4 %	1.3 %	2.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5070 ppm	0.4934 ppm	0.4952 ppm	9.7553 ppm	0.5114 ppm	0.5177 ppm	0.5152 ppm
Concentration per Run 1	0.5086 ppm	0.4854 ppm	0.4944 ppm	9.5628 ppm	0.5100 ppm	0.5171 ppm	0.5130 ppm
Concentration per Run 2	0.5080 ppm	0.4992 ppm	0.4945 ppm	9.8189 ppm	0.5118 ppm	0.5179 ppm	0.5165 ppm
Concentration per Run 3	0.5044 ppm	0.4956 ppm	0.4967 ppm	9.8844 ppm	0.5124 ppm	0.5181 ppm	0.5162 ppm
Recovery Percentage 1	101.401 %	98.684 %	99.043 %	97.553 %	102.286 %	103.543 %	103.047 %
Concentration RSD	0.4 %	1.5 %	0.3 %	1.7 %	0.2 %	0.1 %	0.4 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.5139 ppm	5.6406 ppm	0.4857 ppm	0.4673 ppm	0.4967 ppm	0.5267 ppm	0.4873 ppm
Concentration per Run 1	0.5113 ppm	5.6265 ppm	0.4851 ppm	0.4586 ppm	0.4936 ppm	0.5250 ppm	0.4843 ppm
Concentration per Run 2	0.5133 ppm	5.6346 ppm	0.4860 ppm	0.4712 ppm	0.4984 ppm	0.5262 ppm	0.4885 ppm
Concentration per Run 3	0.5170 ppm	5.6608 ppm	0.4860 ppm	0.4720 ppm	0.4981 ppm	0.5289 ppm	0.4891 ppm
Recovery Percentage 1	102.774 %	107.441 %	97.143 %	93.457 %	99.336 %	105.343 %	97.464 %
Concentration RSD	0.6 %	0.3 %	0.1 %	1.6 %	0.5 %	0.4 %	0.5 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5139 ppm	99.9510 %	99.5124 %	101.1300 %	100.7389 %	99.4437 %	100.2932 %
Concentration per Run 1	0.5137 ppm	100.2483 %	99.1627 %	101.4713 %	102.0582 %	99.8117 %	100.5362 %
Concentration per Run 2	0.5150 ppm	99.2615 %	99.7378 %	101.2627 %	99.4949 %	99.5161 %	100.1137 %
Concentration per Run 3	0.5131 ppm	100.3430 %	99.6367 %	100.6560 %	100.6636 %	99.0034 %	100.2295 %
Recovery Percentage 1	102.785 %						
Concentration RSD	0.2 %	0.6 %	0.3 %	0.4 %	1.3 %	0.4 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: ICB
 Analysis started at: 9/19/2024 5:58:20 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0015 ppm	-0.0003 ppm	-0.0002 ppm	-0.0001 ppm	0.0000 ppm	0.0008 ppm
Concentration per Run 1	-0.0003 ppm	0.0044 ppm	-0.0001 ppm	-0.0001 ppm	-0.0001 ppm	0.0000 ppm	0.0009 ppm
Concentration per Run 2	0.0000 ppm	0.0008 ppm	-0.0013 ppm	-0.0002 ppm	0.0000 ppm	0.0000 ppm	0.0026 ppm
Concentration per Run 3	0.0002 ppm	-0.0005 ppm	0.0004 ppm	-0.0002 ppm	-0.0001 ppm	0.0000 ppm	-0.0011 ppm
Recovery Percentage 1	-0.791 %	1.543 %	-6.976 %	-0.542 %	-0.556 %	0.187 %	0.832 %
Concentration RSD	468.0 %	165.5 %	255.0 %	34.3 %	130.5 %	82.2 %	223.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	0.0000 ppm	0.0000 ppm	-0.0008 ppm	-0.0165 ppm	0.0003 ppm
Concentration per Run 1	0.0000 ppm	0.0001 ppm	0.0000 ppm	-0.0001 ppm	0.0000 ppm	-0.0125 ppm	0.0003 ppm
Concentration per Run 2	0.0000 ppm	0.0000 ppm	-0.0002 ppm	0.0000 ppm	-0.0011 ppm	-0.0374 ppm	0.0003 ppm
Concentration per Run 3	0.0001 ppm	0.0001 ppm	0.0001 ppm	0.0001 ppm	-0.0011 ppm	0.0004 ppm	0.0004 ppm
Recovery Percentage 1	0.650 %	0.419 %	-0.254 %	-0.219 %	-1.514 %	-0.660 %	3.327 %
Concentration RSD	91.8 %	79.6 %	560.9 %	519.3 %	83.4 %	116.4 %	16.3 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0011 ppm	-0.0001 ppm	0.0002 ppm	0.0052 ppm	-0.0002 ppm	-0.0002 ppm	0.0000 ppm
Concentration per Run 1	0.0021 ppm	-0.0003 ppm	0.0002 ppm	0.0015 ppm	-0.0001 ppm	0.0000 ppm	0.0005 ppm
Concentration per Run 2	0.0015 ppm	-0.0001 ppm	0.0002 ppm	0.0078 ppm	-0.0003 ppm	-0.0003 ppm	-0.0005 ppm
Concentration per Run 3	-0.0005 ppm	0.0001 ppm	0.0002 ppm	0.0062 ppm	-0.0003 ppm	-0.0004 ppm	0.0000 ppm
Recovery Percentage 1	1.058 %	-0.806 %	0.406 %	0.258 %	-0.815 %	-2.472 %	-0.004 %
Concentration RSD	128.3 %	219.5 %	21.9 %	62.9 %	59.1 %	76.7 %	27,349.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0003 ppm	-0.0004 ppm	-0.0004 ppm	0.0000 ppm	-0.0001 ppm	-0.0004 ppm	0.0001 ppm
Concentration per Run 1	0.0009 ppm	0.0000 ppm	-0.0002 ppm	0.0000 ppm	-0.0001 ppm	-0.0001 ppm	0.0001 ppm
Concentration per Run 2	0.0010 ppm	-0.0006 ppm	-0.0005 ppm	0.0000 ppm	-0.0002 ppm	-0.0006 ppm	0.0001 ppm
Concentration per Run 3	-0.0010 ppm	-0.0004 ppm	-0.0005 ppm	0.0000 ppm	0.0000 ppm	-0.0005 ppm	0.0001 ppm
Recovery Percentage 1	2.832 %	-0.071 %	-0.781 %	-0.070 %	-0.755 %	-1.941 %	0.822 %
Concentration RSD	396.2 %	83.0 %	44.8 %	137.0 %	147.9 %	68.9 %	59.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0001 ppm	100.9904 %	100.8287 %	100.6013 %	100.9971 %	101.1144 %	100.2806 %
Concentration per Run 1	0.0002 ppm	101.6706 %	100.9562 %	101.2941 %	102.0589 %	101.6812 %	100.2488 %
Concentration per Run 2	0.0002 ppm	101.0175 %	100.7187 %	100.4371 %	100.7827 %	101.0105 %	100.4777 %
Concentration per Run 3	0.0000 ppm	100.2831 %	100.8113 %	100.0726 %	100.1497 %	100.6513 %	100.1153 %
Recovery Percentage 1	2.952 %						
Concentration RSD	74.3 %	0.7 %	0.1 %	0.6 %	1.0 %	0.5 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: ICV
 Analysis started at: 9/19/2024 6:04:46 PM
 Comments: position changed
 Rack: 0
 Vial: 10

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5062 ppm	0.6318 ppm	0.4951 ppm	0.5025 ppm	0.4981 ppm	0.5077 ppm	0.5131 ppm
Concentration per Run 1	0.5065 ppm	0.6261 ppm	0.4957 ppm	0.5032 ppm	0.4937 ppm	0.5024 ppm	0.5080 ppm
Concentration per Run 2	0.5043 ppm	0.6343 ppm	0.4938 ppm	0.5010 ppm	0.4990 ppm	0.5096 ppm	0.5177 ppm
Concentration per Run 3	0.5076 ppm	0.6349 ppm	0.4959 ppm	0.5033 ppm	0.5017 ppm	0.5112 ppm	0.5136 ppm
Recovery Percentage 1	101.234 %	126.355 %	99.028 %	100.494 %	99.629 %	101.549 %	102.621 %
Concentration RSD	0.3 %	0.8 %	0.2 %	0.3 %	0.8 %	0.9 %	0.9 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.5002 ppm	0.5152 ppm	0.4911 ppm	0.4893 ppm	0.5065 ppm	5.1938 ppm	0.4941 ppm
Concentration per Run 1	0.5008 ppm	0.5159 ppm	0.4907 ppm	0.4902 ppm	0.5038 ppm	5.1190 ppm	0.4914 ppm
Concentration per Run 2	0.4995 ppm	0.5142 ppm	0.4911 ppm	0.4875 ppm	0.5080 ppm	5.2584 ppm	0.4938 ppm
Concentration per Run 3	0.5002 ppm	0.5156 ppm	0.4915 ppm	0.4904 ppm	0.5076 ppm	5.2040 ppm	0.4972 ppm
Recovery Percentage 1	100.037 %	103.049 %	98.222 %	97.870 %	101.293 %	103.876 %	98.826 %
Concentration RSD	0.1 %	0.2 %	0.1 %	0.3 %	0.5 %	1.4 %	0.6 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5035 ppm	0.4967 ppm	0.4983 ppm	9.9630 ppm	0.5121 ppm	0.5163 ppm	0.5159 ppm
Concentration per Run 1	0.5013 ppm	0.4890 ppm	0.4997 ppm	9.9329 ppm	0.5128 ppm	0.5174 ppm	0.5155 ppm
Concentration per Run 2	0.5071 ppm	0.4999 ppm	0.4964 ppm	9.9382 ppm	0.5113 ppm	0.5155 ppm	0.5155 ppm
Concentration per Run 3	0.5022 ppm	0.5012 ppm	0.4987 ppm	10.0179 ppm	0.5121 ppm	0.5161 ppm	0.5167 ppm
Recovery Percentage 1	100.704 %	99.343 %	99.657 %	99.630 %	102.416 %	103.269 %	103.174 %
Concentration RSD	0.6 %	1.4 %	0.3 %	0.5 %	0.1 %	0.2 %	0.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.5047 ppm	5.6792 ppm	0.4956 ppm	0.4840 ppm	0.5000 ppm	0.5258 ppm	0.4893 ppm
Concentration per Run 1	0.5055 ppm	5.6840 ppm	0.4971 ppm	0.4792 ppm	0.4986 ppm	0.5263 ppm	0.4882 ppm
Concentration per Run 2	0.5044 ppm	5.6607 ppm	0.4959 ppm	0.4852 ppm	0.5005 ppm	0.5250 ppm	0.4892 ppm
Concentration per Run 3	0.5041 ppm	5.6928 ppm	0.4937 ppm	0.4876 ppm	0.5009 ppm	0.5259 ppm	0.4906 ppm
Recovery Percentage 1	100.934 %	108.174 %	99.115 %	96.800 %	100.001 %	105.151 %	97.863 %
Concentration RSD	0.2 %	0.3 %	0.3 %	0.9 %	0.2 %	0.1 %	0.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5072 ppm	99.8712 %	99.8807 %	100.1249 %	100.1784 %	97.7141 %	100.2405 %
Concentration per Run 1	0.5074 ppm	100.8941 %	99.7915 %	100.0050 %	101.5733 %	97.8933 %	100.3419 %
Concentration per Run 2	0.5071 ppm	99.0434 %	99.9245 %	100.3266 %	99.3101 %	97.5184 %	100.2906 %
Concentration per Run 3	0.5072 ppm	99.6760 %	99.9259 %	100.0430 %	99.6517 %	97.7306 %	100.0889 %
Recovery Percentage 1	101.443 %						
Concentration RSD	0.0 %	0.9 %	0.1 %	0.2 %	1.2 %	0.2 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: ICB
 Analysis started at: 9/19/2024 6:10:52 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.0012 ppm	0.0000 ppm	-0.0001 ppm	0.0000 ppm	0.0000 ppm	-0.0004 ppm
Concentration per Run 1	-0.0003 ppm	0.0013 ppm	0.0002 ppm	0.0001 ppm	0.0001 ppm	0.0000 ppm	0.0017 ppm
Concentration per Run 2	-0.0002 ppm	0.0039 ppm	0.0002 ppm	-0.0001 ppm	-0.0001 ppm	0.0000 ppm	-0.0009 ppm
Concentration per Run 3	-0.0001 ppm	-0.0016 ppm	-0.0003 ppm	-0.0003 ppm	0.0000 ppm	0.0000 ppm	-0.0019 ppm
Recovery Percentage 1	-2.759 %	1.199 %	0.722 %	-0.306 %	-0.165 %	0.041 %	-0.386 %
Concentration RSD	52.1 %	228.4 %	753.4 %	219.4 %	377.3 %	189.9 %	478.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0002 ppm	-0.0001 ppm	0.0002 ppm	-0.0006 ppm	-0.0120 ppm	0.0002 ppm
Concentration per Run 1	0.0000 ppm	0.0001 ppm	-0.0002 ppm	0.0001 ppm	-0.0006 ppm	-0.0255 ppm	0.0001 ppm
Concentration per Run 2	0.0000 ppm	0.0003 ppm	0.0000 ppm	0.0001 ppm	-0.0013 ppm	-0.0116 ppm	0.0001 ppm
Concentration per Run 3	0.0000 ppm	0.0003 ppm	-0.0002 ppm	0.0003 ppm	0.0000 ppm	0.0010 ppm	0.0005 ppm
Recovery Percentage 1	0.581 %	0.997 %	-1.147 %	1.680 %	-1.267 %	-0.481 %	2.460 %
Concentration RSD	89.7 %	61.1 %	112.2 %	86.2 %	100.2 %	110.0 %	90.3 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0008 ppm	-0.0002 ppm	0.0002 ppm	0.0021 ppm	-0.0004 ppm	-0.0002 ppm	0.0001 ppm
Concentration per Run 1	0.0004 ppm	0.0000 ppm	0.0002 ppm	0.0016 ppm	-0.0002 ppm	0.0000 ppm	-0.0008 ppm
Concentration per Run 2	-0.0025 ppm	-0.0003 ppm	0.0004 ppm	0.0002 ppm	-0.0003 ppm	-0.0006 ppm	0.0001 ppm
Concentration per Run 3	-0.0004 ppm	-0.0002 ppm	0.0001 ppm	0.0044 ppm	-0.0006 ppm	0.0000 ppm	0.0010 ppm
Recovery Percentage 1	-0.846 %	-1.705 %	0.413 %	0.103 %	-1.466 %	-1.776 %	0.178 %
Concentration RSD	177.4 %	84.3 %	75.0 %	104.4 %	65.4 %	191.7 %	987.5 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0012 ppm	-0.0002 ppm	0.0002 ppm	0.0000 ppm	0.0000 ppm	0.0002 ppm	0.0000 ppm
Concentration per Run 1	-0.0005 ppm	-0.0011 ppm	0.0004 ppm	0.0000 ppm	0.0003 ppm	0.0005 ppm	0.0000 ppm
Concentration per Run 2	0.0023 ppm	0.0006 ppm	0.0000 ppm	-0.0001 ppm	-0.0001 ppm	0.0004 ppm	0.0000 ppm
Concentration per Run 3	0.0016 ppm	-0.0001 ppm	0.0003 ppm	0.0000 ppm	-0.0001 ppm	-0.0003 ppm	0.0000 ppm
Recovery Percentage 1	11.508 %	-0.039 %	0.476 %	-0.020 %	0.146 %	1.018 %	0.199 %
Concentration RSD	127.8 %	425.2 %	92.8 %	2,734.8 %	1,449.5 %	209.6 %	97.5 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0001 ppm	100.6139 %	99.5482 %	99.6686 %	99.9083 %	99.4513 %	99.1517 %
Concentration per Run 1	0.0001 ppm	100.3557 %	99.9226 %	100.1103 %	100.4979 %	99.9696 %	99.1933 %
Concentration per Run 2	0.0001 ppm	100.6715 %	99.2574 %	99.5202 %	99.3375 %	99.0786 %	99.2127 %
Concentration per Run 3	0.0000 ppm	100.8146 %	99.4646 %	99.3754 %	99.8894 %	99.3056 %	99.0490 %
Recovery Percentage 1	1.441 %						
Concentration RSD	82.6 %	0.2 %	0.3 %	0.4 %	0.6 %	0.5 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: LLOQ
 Analysis started at: 9/19/2024 6:17:18 PM
 Comments: <Comment>
 Rack: 0
 Vial: 5

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0051 ppm	0.1071 ppm	0.0051 ppm	0.0322 ppm	0.0102 ppm	0.0051 ppm	0.1098 ppm
Concentration per Run 1	0.0050 ppm	0.1084 ppm	0.0040 ppm	0.0324 ppm	0.0101 ppm	0.0050 ppm	0.1070 ppm
Concentration per Run 2	0.0048 ppm	0.1102 ppm	0.0056 ppm	0.0323 ppm	0.0103 ppm	0.0051 ppm	0.1111 ppm
Concentration per Run 3	0.0053 ppm	0.1027 ppm	0.0056 ppm	0.0319 ppm	0.0103 ppm	0.0052 ppm	0.1114 ppm
Recovery Percentage 1	101.431 %	107.088 %	101.339 %	107.459 %	102.113 %	101.703 %	109.820 %
Concentration RSD	4.9 %	3.7 %	18.5 %	0.8 %	1.4 %	2.2 %	2.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0042 ppm	0.0212 ppm	0.0096 ppm	0.0106 ppm	0.0643 ppm	2.6340 ppm	0.0109 ppm
Concentration per Run 1	0.0042 ppm	0.0213 ppm	0.0096 ppm	0.0106 ppm	0.0659 ppm	2.5692 ppm	0.0103 ppm
Concentration per Run 2	0.0043 ppm	0.0214 ppm	0.0095 ppm	0.0105 ppm	0.0644 ppm	2.6726 ppm	0.0112 ppm
Concentration per Run 3	0.0041 ppm	0.0209 ppm	0.0097 ppm	0.0106 ppm	0.0625 ppm	2.6603 ppm	0.0111 ppm
Recovery Percentage 1	104.835 %	105.974 %	96.195 %	105.803 %	128.518 %	105.362 %	108.919 %
Concentration RSD	1.8 %	1.3 %	0.8 %	0.6 %	2.7 %	2.1 %	4.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.1052 ppm	0.0109 ppm	0.0522 ppm	2.0662 ppm	0.0203 ppm	0.0109 ppm	0.0537 ppm
Concentration per Run 1	0.1052 ppm	0.0108 ppm	0.0524 ppm	2.0238 ppm	0.0203 ppm	0.0110 ppm	0.0539 ppm
Concentration per Run 2	0.1053 ppm	0.0109 ppm	0.0523 ppm	2.0926 ppm	0.0204 ppm	0.0109 ppm	0.0544 ppm
Concentration per Run 3	0.1053 ppm	0.0111 ppm	0.0520 ppm	2.0822 ppm	0.0203 ppm	0.0106 ppm	0.0526 ppm
Recovery Percentage 1	105.247 %	109.256 %	104.466 %	103.310 %	101.674 %	108.658 %	107.311 %
Concentration RSD	0.0 %	1.1 %	0.5 %	1.8 %	0.1 %	1.9 %	1.7 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0105 ppm	0.5740 ppm	0.0521 ppm	0.0100 ppm	0.0527 ppm	0.0223 ppm	0.0105 ppm
Concentration per Run 1	0.0096 ppm	0.5779 ppm	0.0524 ppm	0.0098 ppm	0.0524 ppm	0.0224 ppm	0.0106 ppm
Concentration per Run 2	0.0110 ppm	0.5754 ppm	0.0521 ppm	0.0102 ppm	0.0531 ppm	0.0214 ppm	0.0105 ppm
Concentration per Run 3	0.0110 ppm	0.5688 ppm	0.0518 ppm	0.0102 ppm	0.0526 ppm	0.0232 ppm	0.0104 ppm
Recovery Percentage 1	105.153 %	114.808 %	104.236 %	100.320 %	105.358 %	111.595 %	104.758 %
Concentration RSD	7.8 %	0.8 %	0.6 %	2.4 %	0.7 %	3.9 %	0.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0072 ppm	100.2168 %	99.1110 %	99.0715 %	101.1532 %	97.2305 %	98.7499 %
Concentration per Run 1	0.0073 ppm	100.2901 %	99.1288 %	98.6914 %	103.1842 %	96.9199 %	98.9622 %
Concentration per Run 2	0.0072 ppm	100.6491 %	98.8369 %	98.6790 %	100.8266 %	96.9284 %	98.2641 %
Concentration per Run 3	0.0072 ppm	99.7112 %	99.3673 %	99.8439 %	99.4489 %	97.8433 %	99.0232 %
Recovery Percentage 1	144.666 %						
Concentration RSD	1.0 %	0.5 %	0.3 %	0.7 %	1.9 %	0.5 %	0.4 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: ICSA
Analysis started at: 9/19/2024 6:32:27 PM
Comments: <Comment>
Rack: 0
Vial: 6

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0009 ppm	513.7559 [SIC 500]	-0.0001 ppm	-0.0121 ppm	0.0005 ppm	-0.0005 ppm	557.5856 [SIC 1000]
Concentration per Run 1	0.0010 ppm	513.6456 ppm	0.0036 ppm	-0.0124 ppm	0.0005 ppm	-0.0005 ppm	563.8838 ppm
Concentration per Run 2	0.0007 ppm	516.3981 ppm	-0.0015 ppm	-0.0115 ppm	0.0005 ppm	-0.0005 ppm	559.7792 ppm
Concentration per Run 3	0.0011 ppm	511.2241 ppm	-0.0023 ppm	-0.0126 ppm	0.0005 ppm	-0.0005 ppm	549.0939 ppm
Recovery Percentage 1	13.295 %	513,755.938 %	-1.344 %	-40.497 %	4.900 %	-9.355 %	557,585.643 %
Concentration RSD	21.9 %	0.5 %	4,762.6 %	4.6 %	6.5 %	4.5 %	1.4 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0001 ppm	0.0011 ppm	0.0014 ppm	0.0001 ppm	182.8364 ppm	-0.0312 ppm	-0.0096 ppm
Concentration per Run 1	-0.0001 ppm	0.0012 ppm	0.0012 ppm	0.0001 ppm	181.4142 ppm	-0.0488 ppm	-0.0093 ppm
Concentration per Run 2	0.0001 ppm	0.0011 ppm	0.0012 ppm	0.0003 ppm	185.7278 ppm	-0.0293 ppm	-0.0100 ppm
Concentration per Run 3	0.0001 ppm	0.0010 ppm	0.0017 ppm	-0.0002 ppm	181.3671 ppm	-0.0155 ppm	-0.0094 ppm
Recovery Percentage 1	1.852 %	5.441 %	13.671 %	0.740 %	365,672.709 %	-1.249 %	-95.579 %
Concentration RSD	149.9 %	9.1 %	22.8 %	337.0 %	1.4 %	53.6 %	3.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	471.3814 ppm	0.0017 ppm	-0.0011 ppm	0.0244 ppm	0.0069 ppm	0.0076 ppm	-0.0126 ppm
Concentration per Run 1	473.6367 ppm	0.0018 ppm	-0.0011 ppm	0.0234 ppm	0.0068 ppm	0.0068 ppm	-0.0153 ppm
Concentration per Run 2	469.9518 ppm	0.0019 ppm	-0.0008 ppm	0.0260 ppm	0.0076 ppm	0.0084 ppm	-0.0116 ppm
Concentration per Run 3	470.5557 ppm	0.0015 ppm	-0.0012 ppm	0.0240 ppm	0.0062 ppm	0.0077 ppm	-0.0110 ppm
Recovery Percentage 1	471,381.403 %	17.231 %	-2.111 %	1.222 %	27.435 %	76.101 %	-25.272 %
Concentration RSD	0.4 %	10.3 %	19.5 %	5.6 %	10.3 %	10.4 %	18.3 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0016 ppm	-0.0017 ppm	0.0025 ppm	-0.0004 ppm	-0.0043 ppm	-0.0004 ppm	-0.0024 ppm
Concentration per Run 1	-0.0007 ppm	-0.0015 ppm	0.0024 ppm	-0.0005 ppm	-0.0044 ppm	-0.0016 ppm	-0.0023 ppm
Concentration per Run 2	-0.0024 ppm	-0.0010 ppm	0.0024 ppm	-0.0003 ppm	-0.0040 ppm	0.0006 ppm	-0.0024 ppm
Concentration per Run 3	-0.0017 ppm	-0.0024 ppm	0.0025 ppm	-0.0003 ppm	-0.0044 ppm	-0.0001 ppm	-0.0026 ppm
Recovery Percentage 1	-15.999 %	-0.334 %	4.930 %	-3.672 %	-42.572 %	-1.830 %	-24.473 %
Concentration RSD	53.8 %	42.2 %	1.5 %	23.0 %	5.3 %	300.8 %	6.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	-0.0084 ppm	93.9754 %	85.5341 %	87.0716 %	93.7206 %	66.9058 %	85.2393 %
Concentration per Run 1	-0.0083 ppm	93.9533 %	85.3456 %	87.2315 %	94.0601 %	67.0137 %	85.0798 %
Concentration per Run 2	-0.0085 ppm	94.0222 %	85.6296 %	87.2053 %	93.3465 %	66.9229 %	85.4572 %
Concentration per Run 3	-0.0084 ppm	93.9508 %	85.6271 %	86.7780 %	93.7551 %	66.7809 %	85.1808 %
Recovery Percentage 1	-167.766 %						
Concentration RSD	0.8 %	0.0 %	0.2 %	0.3 %	0.4 %	0.2 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: LDR Check
 Analysis started at: 9/19/2024 7:04:43 PM
 Comments: <Comment>
 Rack: 0
 Vial: 8

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0031 ppm	0.1615 ppm	20.6632 ppm	23.5254 [SIC 20]	18.9345 ppm	5.0343 ppm	0.0413 ppm
Concentration per Run 1	0.0030 ppm	0.1588 ppm	24.1831 ppm	27.7237 ppm	19.0795 ppm	4.9860 ppm	0.0412 ppm
Concentration per Run 2	0.0032 ppm	0.1644 ppm	24.0324 ppm	27.4347 ppm	18.9396 ppm	5.0669 ppm	0.0397 ppm
Concentration per Run 3	0.0031 ppm	0.1612 ppm	13.7741 ppm	15.4177 ppm	18.7843 ppm	5.0501 ppm	0.0431 ppm
Recovery Percentage 1	0.000 %	0.000 %	103.316 %	117.627 %	94.672 %	100.686 %	0.000 %
Concentration RSD	2.2 %	1.8 %	28.9 %	29.9 %	0.8 %	0.8 %	4.1 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	4.9128 ppm	4.8078 ppm	-0.0005 ppm	20.2864 [SIC 20]	0.0319 ppm	494.5532 ppm	19.1125 ppm
Concentration per Run 1	5.6509 ppm	5.5879 ppm	-0.0002 ppm	20.5346 ppm	0.0343 ppm	492.3662 ppm	19.2572 ppm
Concentration per Run 2	5.6435 ppm	5.5631 ppm	-0.0008 ppm	20.1542 ppm	0.0302 ppm	518.2165 ppm	18.7822 ppm
Concentration per Run 3	3.4441 ppm	3.2725 ppm	-0.0006 ppm	20.1703 ppm	0.0312 ppm	473.0769 ppm	19.2982 ppm
Recovery Percentage 1	98.256 %	96.157 %	0.000 %	101.432 %	0.000 %	98.911 %	95.563 %
Concentration RSD	25.9 %	27.7 %	63.5 %	1.1 %	6.8 %	4.6 %	1.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.1244 ppm	0.0004 ppm	4.9642 ppm	417.8496 ppm	9.2291 ppm	45.0897 ppm	5.0750 ppm
Concentration per Run 1	-0.1259 ppm	0.0005 ppm	5.7786 ppm	429.8745 ppm	10.7070 ppm	52.3077 ppm	5.9933 ppm
Concentration per Run 2	-0.1224 ppm	0.0003 ppm	5.7414 ppm	417.1455 ppm	10.6736 ppm	52.0863 ppm	5.9145 ppm
Concentration per Run 3	-0.1248 ppm	0.0004 ppm	3.3725 ppm	406.5288 ppm	6.3066 ppm	30.8752 ppm	3.3173 ppm
Recovery Percentage 1	0.000 %	0.000 %	99.283 %	83.570 %	92.291 %	90.179 %	101.501 %
Concentration RSD	1.5 %	22.1 %	27.8 %	2.8 %	27.4 %	27.3 %	30.0 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	4.8924 ppm	21.0972 [SIC 50]	9.0325 ppm	4.7279 ppm	0.0033 ppm	4.1166 ppm	0.0133 ppm
Concentration per Run 1	5.7553 ppm	24.8295 ppm	10.4755 ppm	4.7288 ppm	0.0030 ppm	4.7924 ppm	0.0140 ppm
Concentration per Run 2	5.7068 ppm	24.5716 ppm	10.4287 ppm	4.7390 ppm	0.0036 ppm	4.7775 ppm	0.0144 ppm
Concentration per Run 3	3.2150 ppm	13.8905 ppm	6.1932 ppm	4.7158 ppm	0.0032 ppm	2.7798 ppm	0.0116 ppm
Recovery Percentage 1	97.848 %	105.486 %	90.325 %	94.557 %	0.000 %	82.331 %	0.000 %
Concentration RSD	29.7 %	29.6 %	27.2 %	0.2 %	8.3 %	28.1 %	11.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	19.6349 ppm	96.1725 %	88.3209 %	95.1342 %	95.5309 %	95.7422 %	87.2860 %
Concentration per Run 1	22.4448 ppm	95.9410 %	88.2849 %	78.4885 %	95.3157 %	81.2616 %	87.0568 %
Concentration per Run 2	22.4835 ppm	97.3277 %	88.4627 %	78.8490 %	96.4515 %	81.6952 %	87.2957 %
Concentration per Run 3	13.9766 ppm	95.2489 %	88.2152 %	128.0652 %	94.8255 %	124.2699 %	87.5055 %
Recovery Percentage 1	98.175 %						
Concentration RSD	25.0 %	1.1 %	0.1 %	30.0 %	0.9 %	25.8 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: SIC Multi
 Analysis started at: 9/20/2024 9:46:22 AM
 Comments: <Comment>
 Rack: 0
 Vial: 7

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0015 ppm	0.0128 ppm	-0.0017 ppm	0.0087 ppm	0.0004 ppm	-0.0009 ppm	0.0138 ppm
Concentration per Run 1	0.0015 ppm	0.0119 ppm	-0.0007 ppm	0.0084 ppm	0.0004 ppm	-0.0009 ppm	0.0125 ppm
Concentration per Run 2	0.0018 ppm	0.0141 ppm	-0.0027 ppm	0.0089 ppm	0.0004 ppm	-0.0008 ppm	0.0164 ppm
Concentration per Run 3	0.0012 ppm	0.0124 ppm	-0.0016 ppm	0.0087 ppm	0.0004 ppm	-0.0010 ppm	0.0125 ppm
Recovery Percentage 1	21.274 %	12.792 %	-33.258 %	28.889 %	4.134 %	-18.435 %	13.797 %
Concentration RSD	20.3 %	9.1 %	60.4 %	3.0 %	4.9 %	9.3 %	16.4 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0009 ppm	-0.0036 ppm	20.1560 ppm	-0.0034 ppm	-0.0102 ppm	-0.0269 ppm	-0.0005 ppm
Concentration per Run 1	-0.0009 ppm	-0.0036 ppm	20.2572 ppm	-0.0033 ppm	-0.0091 ppm	-0.0420 ppm	-0.0001 ppm
Concentration per Run 2	-0.0010 ppm	-0.0036 ppm	20.1773 ppm	-0.0035 ppm	-0.0103 ppm	-0.0082 ppm	-0.0006 ppm
Concentration per Run 3	-0.0009 ppm	-0.0035 ppm	20.0334 ppm	-0.0034 ppm	-0.0111 ppm	-0.0305 ppm	-0.0006 ppm
Recovery Percentage 1	-23.609 %	-17.787 %	201,559.796 %	-33.898 %	-20.339 %	-1.076 %	-4.500 %
Concentration RSD	4.0 %	1.2 %	0.6 %	3.5 %	9.7 %	63.8 %	67.0 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0198 ppm	20.1948 [SIC 30]	-0.0021 ppm	0.0111 ppm	0.0010 ppm	0.0036 ppm	-0.0145 ppm
Concentration per Run 1	-0.0193 ppm	20.4229 ppm	-0.0021 ppm	0.0095 ppm	0.0010 ppm	0.0038 ppm	-0.0155 ppm
Concentration per Run 2	-0.0205 ppm	20.0259 ppm	-0.0021 ppm	0.0124 ppm	0.0009 ppm	0.0035 ppm	-0.0134 ppm
Concentration per Run 3	-0.0196 ppm	20.1356 ppm	-0.0021 ppm	0.0113 ppm	0.0012 ppm	0.0036 ppm	-0.0146 ppm
Recovery Percentage 1	-19.812 %	201,947.764 %	-4.188 %	0.553 %	4.082 %	36.331 %	-29.064 %
Concentration RSD	3.1 %	1.0 %	1.5 %	13.1 %	16.2 %	4.0 %	7.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0006 ppm	0.2512 ppm	-0.0024 ppm	0.0001 ppm	19.8756 ppm	-0.0302 ppm	10.1403 [SIC 10]
Concentration per Run 1	0.0000 ppm	0.2511 ppm	-0.0021 ppm	0.0001 ppm	19.8654 ppm	-0.0310 ppm	10.1095 ppm
Concentration per Run 2	-0.0005 ppm	0.2521 ppm	-0.0024 ppm	0.0001 ppm	19.8866 ppm	-0.0303 ppm	10.1922 ppm
Concentration per Run 3	0.0023 ppm	0.2505 ppm	-0.0026 ppm	0.0001 ppm	19.8749 ppm	-0.0292 ppm	10.1193 ppm
Recovery Percentage 1	5.910 %	50.246 %	-4.759 %	1.044 %	198,756.251 %	-150.937 %	101,403.378 %
Concentration RSD	251.0 %	0.3 %	11.2 %	16.4 %	0.1 %	3.1 %	0.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	-0.0016 ppm	95.3024 %	99.6441 %	105.0436 %	96.2763 %	101.3101 %	100.0681 %
Concentration per Run 1	-0.0016 ppm	95.3105 %	99.7528 %	105.2828 %	96.7684 %	101.3784 %	100.1128 %
Concentration per Run 2	-0.0015 ppm	94.6917 %	99.4877 %	104.7006 %	96.1241 %	101.2132 %	99.8210 %
Concentration per Run 3	-0.0019 ppm	95.9051 %	99.6919 %	105.1473 %	95.9363 %	101.3389 %	100.2706 %
Recovery Percentage 1	-32.641 %						
Concentration RSD	12.9 %	0.6 %	0.1 %	0.3 %	0.5 %	0.1 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: LLOQ 005 Zn pass
 Analysis started at: 9/20/2024 9:54:41 AM
 Comments: <Comment>
 Rack: 1
 Vial: 1

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0051 ppm	0.0132 ppm	0.0051 ppm	0.0038 ppm	0.0050 ppm	0.0051 ppm	0.0145 ppm
Concentration per Run 1	0.0050 ppm	0.0146 ppm	0.0047 ppm	0.0038 ppm	0.0049 ppm	0.0050 ppm	0.0145 ppm
Concentration per Run 2	0.0051 ppm	0.0151 ppm	0.0051 ppm	0.0039 ppm	0.0050 ppm	0.0050 ppm	0.0132 ppm
Concentration per Run 3	0.0052 ppm	0.0100 ppm	0.0056 ppm	0.0039 ppm	0.0052 ppm	0.0051 ppm	0.0157 ppm
Recovery Percentage 1	102.297 %	264.769 %	102.326 %	76.855 %	100.337 %	101.135 %	0.000 %
Concentration RSD	1.6 %	21.1 %	9.0 %	1.1 %	2.7 %	1.5 %	8.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0053 ppm	0.0052 ppm	0.0052 ppm	0.0047 ppm	0.0052 ppm	0.0271 ppm	0.0035 ppm
Concentration per Run 1	0.0052 ppm	0.0051 ppm	0.0052 ppm	0.0044 ppm	0.0054 ppm	0.0234 ppm	0.0037 ppm
Concentration per Run 2	0.0053 ppm	0.0053 ppm	0.0053 ppm	0.0048 ppm	0.0049 ppm	0.0299 ppm	0.0034 ppm
Concentration per Run 3	0.0053 ppm	0.0052 ppm	0.0051 ppm	0.0047 ppm	0.0054 ppm	0.0281 ppm	0.0034 ppm
Recovery Percentage 1	105.254 %	103.848 %	104.003 %	93.118 %	104.931 %	0.000 %	70.166 %
Concentration RSD	0.4 %	1.2 %	2.5 %	4.2 %	5.4 %	12.3 %	5.8 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0078 ppm	0.0052 ppm	0.0050 ppm	0.1029 ppm	0.0050 ppm	0.0055 ppm	0.0049 ppm
Concentration per Run 1	0.0092 ppm	0.0054 ppm	0.0051 ppm	0.1031 ppm	0.0051 ppm	0.0053 ppm	0.0046 ppm
Concentration per Run 2	0.0071 ppm	0.0052 ppm	0.0050 ppm	0.1012 ppm	0.0049 ppm	0.0057 ppm	0.0061 ppm
Concentration per Run 3	0.0070 ppm	0.0051 ppm	0.0050 ppm	0.1045 ppm	0.0048 ppm	0.0055 ppm	0.0040 ppm
Recovery Percentage 1	0.000 %	104.682 %	100.853 %	0.000 %	99.275 %	109.486 %	97.288 %
Concentration RSD	16.0 %	2.6 %	1.7 %	1.6 %	2.7 %	3.8 %	22.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0058 ppm	0.0572 ppm	0.0052 ppm	0.0048 ppm	0.0052 ppm	0.0055 ppm	0.0051 ppm
Concentration per Run 1	0.0054 ppm	0.0569 ppm	0.0054 ppm	0.0048 ppm	0.0051 ppm	0.0054 ppm	0.0051 ppm
Concentration per Run 2	0.0059 ppm	0.0576 ppm	0.0053 ppm	0.0048 ppm	0.0054 ppm	0.0060 ppm	0.0051 ppm
Concentration per Run 3	0.0060 ppm	0.0572 ppm	0.0049 ppm	0.0049 ppm	0.0052 ppm	0.0050 ppm	0.0051 ppm
Recovery Percentage 1	115.546 %	1,144.513 %	104.003 %	96.658 %	104.411 %	109.839 %	102.395 %
Concentration RSD	5.2 %	0.5 %	4.6 %	1.2 %	2.5 %	9.2 %	0.7 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0060 ppm	96.1095 %	99.1631 %	103.7059 %	97.0617 %	102.4658 %	99.4508 %
Concentration per Run 1	0.0058 ppm	96.5517 %	99.0515 %	103.9138 %	98.6087 %	102.3343 %	99.4066 %
Concentration per Run 2	0.0060 ppm	95.9605 %	99.4954 %	103.6084 %	97.1193 %	102.4436 %	99.1044 %
Concentration per Run 3	0.0061 ppm	95.8163 %	98.9423 %	103.5956 %	95.4570 %	102.6195 %	99.8413 %
Recovery Percentage 1	119.245 %						
Concentration RSD	2.5 %	0.4 %	0.3 %	0.2 %	1.6 %	0.1 %	0.4 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: LLOQ 05 Fe pass
 Analysis started at: 9/20/2024 10:01:03 AM
 Comments: <Comment>
 Rack: 1
 Vial: 2

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0493 ppm	0.0519 ppm	0.0473 ppm	0.0462 ppm	0.0475 ppm	0.0486 ppm	0.0567 ppm
Concentration per Run 1	0.0494 ppm	0.0538 ppm	0.0473 ppm	0.0464 ppm	0.0463 ppm	0.0474 ppm	0.0573 ppm
Concentration per Run 2	0.0493 ppm	0.0503 ppm	0.0465 ppm	0.0463 ppm	0.0480 ppm	0.0489 ppm	0.0557 ppm
Concentration per Run 3	0.0492 ppm	0.0517 ppm	0.0481 ppm	0.0460 ppm	0.0482 ppm	0.0494 ppm	0.0572 ppm
Recovery Percentage 1	0.000 %	103.815 %	0.000 %	0.000 %	0.000 %	0.000 %	113.461 %
Concentration RSD	0.3 %	3.4 %	1.7 %	0.5 %	2.2 %	2.1 %	1.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0496 ppm	0.0500 ppm	0.0497 ppm	0.0464 ppm	0.0494 ppm	0.4928 ppm	0.0464 ppm
Concentration per Run 1	0.0498 ppm	0.0502 ppm	0.0500 ppm	0.0463 ppm	0.0485 ppm	0.4869 ppm	0.0453 ppm
Concentration per Run 2	0.0495 ppm	0.0498 ppm	0.0495 ppm	0.0462 ppm	0.0496 ppm	0.4820 ppm	0.0463 ppm
Concentration per Run 3	0.0496 ppm	0.0499 ppm	0.0496 ppm	0.0465 ppm	0.0503 ppm	0.5095 ppm	0.0477 ppm
Recovery Percentage 1	0.000 %	0.000 %	0.000 %	0.000 %	98.884 %	19.712 %	0.000 %
Concentration RSD	0.3 %	0.4 %	0.5 %	0.3 %	1.8 %	3.0 %	2.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0515 ppm	0.0485 ppm	0.0474 ppm	0.9681 ppm	0.0504 ppm	0.0514 ppm	0.0489 ppm
Concentration per Run 1	0.0519 ppm	0.0476 ppm	0.0476 ppm	0.9475 ppm	0.0507 ppm	0.0515 ppm	0.0496 ppm
Concentration per Run 2	0.0513 ppm	0.0486 ppm	0.0473 ppm	0.9731 ppm	0.0502 ppm	0.0517 ppm	0.0490 ppm
Concentration per Run 3	0.0514 ppm	0.0494 ppm	0.0474 ppm	0.9837 ppm	0.0502 ppm	0.0508 ppm	0.0481 ppm
Recovery Percentage 1	103.078 %	0.000 %	0.000 %	96.812 %	0.000 %	0.000 %	97.801 %
Concentration RSD	0.7 %	1.9 %	0.3 %	1.9 %	0.6 %	0.9 %	1.5 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0505 ppm	0.5412 ppm	0.0483 ppm	0.0463 ppm	0.0490 ppm	0.0515 ppm	0.0481 ppm
Concentration per Run 1	0.0504 ppm	0.5424 ppm	0.0480 ppm	0.0453 ppm	0.0492 ppm	0.0520 ppm	0.0483 ppm
Concentration per Run 2	0.0514 ppm	0.5417 ppm	0.0486 ppm	0.0467 ppm	0.0488 ppm	0.0513 ppm	0.0477 ppm
Concentration per Run 3	0.0497 ppm	0.5394 ppm	0.0482 ppm	0.0469 ppm	0.0489 ppm	0.0512 ppm	0.0483 ppm
Recovery Percentage 1	0.000 %	108.232 %	0.000 %	0.000 %	0.000 %	0.000 %	0.000 %
Concentration RSD	1.7 %	0.3 %	0.6 %	1.9 %	0.4 %	0.8 %	0.7 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0510 ppm	97.3334 %	100.8281 %	105.1949 %	98.8200 %	104.1255 %	101.1476 %
Concentration per Run 1	0.0513 ppm	96.9512 %	100.9083 %	105.1960 %	100.5181 %	104.2715 %	101.1236 %
Concentration per Run 2	0.0510 ppm	98.2033 %	100.9835 %	105.2277 %	98.8033 %	104.1589 %	101.4087 %
Concentration per Run 3	0.0509 ppm	96.8459 %	100.5925 %	105.1609 %	97.1385 %	103.9460 %	100.9104 %
Recovery Percentage 1	102.068 %						
Concentration RSD	0.4 %	0.8 %	0.2 %	0.0 %	1.7 %	0.2 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: LDR 500 Ca pass
 Analysis started at: 9/20/2024 10:07:17 AM
 Comments: <Comment>
 Rack: 1
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0001 ppm	0.0171 ppm	-0.0016 ppm	0.0006 ppm	0.0005 ppm	-0.0004 ppm	521.0936 [SIC 1000]
Concentration per Run 1	0.0003 ppm	0.0212 ppm	-0.0011 ppm	0.0007 ppm	0.0004 ppm	-0.0005 ppm	515.3977 ppm
Concentration per Run 2	0.0000 ppm	0.0158 ppm	-0.0010 ppm	0.0005 ppm	0.0006 ppm	-0.0004 ppm	523.9844 ppm
Concentration per Run 3	0.0001 ppm	0.0142 ppm	-0.0029 ppm	0.0006 ppm	0.0005 ppm	-0.0004 ppm	523.8988 ppm
Concentration RSD	106.3 %	21.6 %	66.5 %	15.2 %	25.3 %	4.7 %	0.9 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0009 ppm	0.0003 ppm	0.0002 ppm	0.0005 ppm	0.0003 ppm	-0.0094 ppm	-0.0054 ppm
Concentration per Run 1	-0.0009 ppm	0.0001 ppm	0.0003 ppm	0.0006 ppm	0.0003 ppm	0.0041 ppm	-0.0053 ppm
Concentration per Run 2	-0.0009 ppm	0.0003 ppm	0.0003 ppm	0.0006 ppm	-0.0005 ppm	-0.0095 ppm	-0.0052 ppm
Concentration per Run 3	-0.0009 ppm	0.0003 ppm	0.0001 ppm	0.0004 ppm	0.0010 ppm	-0.0228 ppm	-0.0059 ppm
Concentration RSD	3.5 %	35.3 %	56.5 %	21.4 %	260.6 %	142.4 %	7.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0001 ppm	0.0002 ppm	0.0003 ppm	0.0111 ppm	-0.0007 ppm	0.0120 ppm	0.0077 ppm
Concentration per Run 1	-0.0018 ppm	0.0001 ppm	0.0004 ppm	0.0115 ppm	-0.0006 ppm	0.0124 ppm	0.0080 ppm
Concentration per Run 2	0.0026 ppm	0.0003 ppm	0.0002 ppm	0.0077 ppm	-0.0009 ppm	0.0114 ppm	0.0078 ppm
Concentration per Run 3	-0.0011 ppm	0.0002 ppm	0.0001 ppm	0.0140 ppm	-0.0007 ppm	0.0122 ppm	0.0073 ppm
Concentration RSD	1,702.0 %	54.6 %	65.4 %	28.5 %	25.4 %	4.4 %	4.7 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0015 ppm	0.0063 ppm	0.0002 ppm	-0.0008 ppm	-0.0043 ppm	0.0005 ppm	0.0004 ppm
Concentration per Run 1	0.0018 ppm	0.0062 ppm	0.0003 ppm	-0.0007 ppm	-0.0042 ppm	-0.0006 ppm	0.0004 ppm
Concentration per Run 2	0.0014 ppm	0.0066 ppm	0.0002 ppm	-0.0009 ppm	-0.0043 ppm	0.0010 ppm	0.0005 ppm
Concentration per Run 3	0.0014 ppm	0.0060 ppm	0.0002 ppm	-0.0008 ppm	-0.0045 ppm	0.0011 ppm	0.0003 ppm
Concentration RSD	16.2 %	5.3 %	19.8 %	10.8 %	3.5 %	186.4 %	24.9 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	-0.0037 ppm	89.5649 %	89.0970 %	91.7062 %	91.2907 %	79.1200 %	89.1513 %
Concentration per Run 1	-0.0037 ppm	90.0637 %	88.9475 %	91.3990 %	92.7651 %	78.7803 %	89.2500 %
Concentration per Run 2	-0.0036 ppm	89.0242 %	88.9599 %	91.7110 %	90.4530 %	79.0638 %	89.1203 %
Concentration per Run 3	-0.0037 ppm	89.6070 %	89.3836 %	92.0086 %	90.6541 %	79.5159 %	89.0835 %
Concentration RSD	1.7 %	0.6 %	0.3 %	0.3 %	1.4 %	0.5 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: LDR 500 Na pass
 Analysis started at: 9/20/2024 10:13:46 AM
 Comments: <Comment>
 Rack: 1
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.0070 ppm	0.0003 ppm	-0.0007 ppm	0.0001 ppm	0.0000 ppm	0.0149 ppm
Concentration per Run 1	-0.0001 ppm	0.0049 ppm	-0.0009 ppm	-0.0011 ppm	0.0001 ppm	0.0000 ppm	0.0151 ppm
Concentration per Run 2	-0.0006 ppm	0.0065 ppm	0.0010 ppm	-0.0006 ppm	0.0002 ppm	0.0000 ppm	0.0157 ppm
Concentration per Run 3	-0.0001 ppm	0.0096 ppm	0.0008 ppm	-0.0004 ppm	0.0001 ppm	0.0000 ppm	0.0140 ppm
Concentration RSD	132.1 %	34.1 %	337.2 %	51.0 %	48.7 %	168.8 %	5.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0003 ppm	0.0000 ppm	0.0004 ppm	0.0006 ppm	0.0118 ppm	-0.0128 ppm
Concentration per Run 1	0.0000 ppm	0.0003 ppm	0.0001 ppm	0.0005 ppm	0.0003 ppm	-0.0023 ppm	-0.0137 ppm
Concentration per Run 2	0.0000 ppm	0.0002 ppm	-0.0002 ppm	0.0005 ppm	0.0006 ppm	0.0120 ppm	-0.0117 ppm
Concentration per Run 3	0.0000 ppm	0.0005 ppm	0.0003 ppm	0.0002 ppm	0.0011 ppm	0.0257 ppm	-0.0130 ppm
Concentration RSD	425.6 %	43.2 %	452.4 %	52.2 %	65.3 %	118.6 %	7.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0024 ppm	0.0000 ppm	0.0002 ppm	449.2872 ppm	-0.0008 ppm	0.0006 ppm	0.0011 ppm
Concentration per Run 1	0.0032 ppm	0.0000 ppm	0.0003 ppm	453.9426 ppm	-0.0007 ppm	0.0008 ppm	0.0012 ppm
Concentration per Run 2	0.0013 ppm	0.0001 ppm	0.0001 ppm	443.6260 ppm	-0.0010 ppm	0.0006 ppm	0.0011 ppm
Concentration per Run 3	0.0028 ppm	0.0001 ppm	0.0002 ppm	450.2929 ppm	-0.0009 ppm	0.0005 ppm	0.0011 ppm
Concentration RSD	39.9 %	178.1 %	59.2 %	1.2 %	20.0 %	25.2 %	6.3 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0000 ppm	0.0001 ppm	-0.0004 ppm	0.0000 ppm	-0.0001 ppm	0.0000 ppm	-0.0001 ppm
Concentration per Run 1	0.0002 ppm	0.0002 ppm	-0.0004 ppm	0.0000 ppm	-0.0001 ppm	0.0004 ppm	-0.0001 ppm
Concentration per Run 2	0.0002 ppm	-0.0003 ppm	-0.0003 ppm	0.0001 ppm	-0.0003 ppm	-0.0004 ppm	-0.0003 ppm
Concentration per Run 3	-0.0004 ppm	0.0005 ppm	-0.0006 ppm	0.0000 ppm	0.0001 ppm	-0.0002 ppm	0.0000 ppm
Concentration RSD	1,795.7 %	287.6 %	40.8 %	130.4 %	235.7 %	921.5 %	158.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0008 ppm	94.4967 %	88.6030 %	94.3467 %	96.1917 %	81.3428 %	88.7370 %
Concentration per Run 1	0.0007 ppm	93.3844 %	88.6531 %	96.4339 %	96.4339 %	81.5804 %	88.2842 %
Concentration per Run 2	0.0008 ppm	95.4586 %	88.7402 %	94.1168 %	96.6447 %	81.1486 %	89.3272 %
Concentration per Run 3	0.0007 ppm	94.6471 %	88.4157 %	94.4374 %	95.4966 %	81.2995 %	88.5995 %
Concentration RSD	4.0 %	1.1 %	0.2 %	0.2 %	0.6 %	0.3 %	0.6 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: LDR 20 B
 Analysis started at: 9/20/2024 10:20:18 AM
 Comments: <Comment>
 Rack: 1
 Vial: 5

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.0050 ppm	0.0020 ppm	19.8585 [SIC 20]	0.0001 ppm	0.0000 ppm	0.0081 ppm
Concentration per Run 1	-0.0001 ppm	0.0043 ppm	0.0025 ppm	19.5917 ppm	0.0000 ppm	0.0000 ppm	0.0088 ppm
Concentration per Run 2	-0.0004 ppm	0.0054 ppm	0.0021 ppm	19.6472 ppm	0.0001 ppm	0.0000 ppm	0.0090 ppm
Concentration per Run 3	-0.0002 ppm	0.0054 ppm	0.0013 ppm	20.3365 ppm	0.0001 ppm	0.0000 ppm	0.0065 ppm
Concentration RSD	56.4 %	13.2 %	32.3 %	2.1 %	16.5 %	1,924.9 %	17.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	-0.0003 ppm	-0.0002 ppm	-0.0006 ppm	-0.0068 ppm	0.0017 ppm
Concentration per Run 1	0.0000 ppm	0.0000 ppm	-0.0001 ppm	-0.0002 ppm	0.0000 ppm	-0.0111 ppm	0.0017 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	-0.0003 ppm	-0.0003 ppm	-0.0011 ppm	-0.0148 ppm	0.0018 ppm
Concentration per Run 3	0.0000 ppm	-0.0001 ppm	-0.0004 ppm	-0.0002 ppm	-0.0007 ppm	0.0056 ppm	0.0015 ppm
Concentration RSD	79.0 %	14,133.7 %	77.7 %	8.3 %	98.2 %	160.8 %	10.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0016 ppm	0.0000 ppm	0.0001 ppm	0.0503 ppm	-0.0003 ppm	0.0001 ppm	-0.0005 ppm
Concentration per Run 1	0.0033 ppm	-0.0001 ppm	0.0001 ppm	0.0547 ppm	-0.0002 ppm	-0.0001 ppm	-0.0008 ppm
Concentration per Run 2	0.0011 ppm	0.0001 ppm	0.0002 ppm	0.0511 ppm	-0.0004 ppm	0.0002 ppm	-0.0002 ppm
Concentration per Run 3	0.0005 ppm	0.0001 ppm	0.0001 ppm	0.0453 ppm	-0.0004 ppm	0.0002 ppm	-0.0004 ppm
Concentration RSD	90.0 %	745.2 %	51.9 %	9.4 %	30.5 %	143.1 %	65.0 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0012 ppm	-0.0011 ppm	0.0004 ppm	0.0000 ppm	-0.0003 ppm	0.0003 ppm	0.0000 ppm
Concentration per Run 1	0.0008 ppm	-0.0012 ppm	0.0006 ppm	0.0000 ppm	-0.0004 ppm	-0.0001 ppm	0.0000 ppm
Concentration per Run 2	0.0018 ppm	-0.0014 ppm	0.0000 ppm	0.0000 ppm	-0.0003 ppm	-0.0001 ppm	0.0001 ppm
Concentration per Run 3	0.0011 ppm	-0.0008 ppm	0.0006 ppm	0.0000 ppm	-0.0002 ppm	0.0013 ppm	0.0000 ppm
Concentration RSD	41.0 %	27.6 %	87.7 %	239.0 %	35.9 %	227.4 %	226.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0005 ppm	97.9586 %	101.1072 %	104.2509 %	99.2591 %	103.2114 %	100.9784 %
Concentration per Run 1	0.0007 ppm	98.2224 %	100.9210 %	104.9010 %	100.0711 %	103.5810 %	100.5970 %
Concentration per Run 2	0.0004 ppm	98.2550 %	100.9225 %	105.4041 %	99.3447 %	104.3208 %	100.8054 %
Concentration per Run 3	0.0005 ppm	97.3985 %	101.4781 %	102.4475 %	98.3614 %	101.7323 %	101.5328 %
Concentration RSD	30.4 %	0.5 %	0.3 %	1.5 %	0.9 %	1.3 %	0.5 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCV
 Analysis started at: 9/20/2024 10:28:06 AM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5149 ppm	0.5063 ppm	0.5029 ppm	0.5194 ppm	0.4943 ppm	0.5104 ppm	0.5109 ppm
Concentration per Run 1	0.5144 ppm	0.4954 ppm	0.5025 ppm	0.5199 ppm	0.4849 ppm	0.5003 ppm	0.5038 ppm
Concentration per Run 2	0.5147 ppm	0.5156 ppm	0.5018 ppm	0.5175 ppm	0.5012 ppm	0.5172 ppm	0.5125 ppm
Concentration per Run 3	0.5157 ppm	0.5077 ppm	0.5045 ppm	0.5208 ppm	0.4968 ppm	0.5137 ppm	0.5164 ppm
Recovery Percentage 1	102.988 %	101.252 %	100.589 %	103.878 %	98.862 %	102.075 %	102.176 %
Concentration RSD	0.1 %	2.0 %	0.3 %	0.3 %	1.7 %	1.7 %	1.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.5176 ppm	0.5186 ppm	0.5132 ppm	0.4830 ppm	0.5075 ppm	5.1976 ppm	0.4852 ppm
Concentration per Run 1	0.5167 ppm	0.5176 ppm	0.5156 ppm	0.4814 ppm	0.4957 ppm	5.1102 ppm	0.4756 ppm
Concentration per Run 2	0.5172 ppm	0.5178 ppm	0.5130 ppm	0.4846 ppm	0.5177 ppm	5.2572 ppm	0.4925 ppm
Concentration per Run 3	0.5189 ppm	0.5204 ppm	0.5109 ppm	0.4830 ppm	0.5091 ppm	5.2255 ppm	0.4876 ppm
Recovery Percentage 1	103.518 %	103.716 %	102.632 %	96.604 %	101.495 %	103.952 %	97.047 %
Concentration RSD	0.2 %	0.3 %	0.5 %	0.3 %	2.2 %	1.5 %	1.8 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5180 ppm	0.5020 ppm	0.4977 ppm	9.8550 ppm	0.5189 ppm	0.5224 ppm	0.5091 ppm
Concentration per Run 1	0.5235 ppm	0.4901 ppm	0.4963 ppm	9.6845 ppm	0.5192 ppm	0.5217 ppm	0.5084 ppm
Concentration per Run 2	0.5142 ppm	0.5073 ppm	0.4967 ppm	9.9997 ppm	0.5175 ppm	0.5223 ppm	0.5077 ppm
Concentration per Run 3	0.5163 ppm	0.5085 ppm	0.5000 ppm	9.8808 ppm	0.5199 ppm	0.5232 ppm	0.5111 ppm
Recovery Percentage 1	103.601 %	100.395 %	99.533 %	98.550 %	103.773 %	104.481 %	101.812 %
Concentration RSD	0.9 %	2.1 %	0.4 %	1.6 %	0.2 %	0.1 %	0.4 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.5138 ppm	5.5870 ppm	0.4918 ppm	0.4692 ppm	0.5127 ppm	0.5257 ppm	0.5036 ppm
Concentration per Run 1	0.5129 ppm	5.5771 ppm	0.4900 ppm	0.4602 ppm	0.5135 ppm	0.5234 ppm	0.5050 ppm
Concentration per Run 2	0.5141 ppm	5.5749 ppm	0.4910 ppm	0.4757 ppm	0.5143 ppm	0.5250 ppm	0.5043 ppm
Concentration per Run 3	0.5144 ppm	5.6088 ppm	0.4943 ppm	0.4716 ppm	0.5105 ppm	0.5287 ppm	0.5014 ppm
Recovery Percentage 1	102.760 %	106.418 %	98.351 %	93.834 %	102.547 %	105.146 %	100.714 %
Concentration RSD	0.2 %	0.3 %	0.5 %	1.7 %	0.4 %	0.5 %	0.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5300 ppm	95.4193 %	97.7732 %	101.5233 %	96.0964 %	98.9896 %	97.6594 %
Concentration per Run 1	0.5292 ppm	96.8239 %	97.5811 %	101.5984 %	98.9693 %	98.7663 %	97.4378 %
Concentration per Run 2	0.5291 ppm	94.8164 %	98.0945 %	101.7081 %	94.5062 %	99.2851 %	97.6700 %
Concentration per Run 3	0.5316 ppm	94.6175 %	97.6441 %	101.2635 %	94.8138 %	98.9174 %	97.8703 %
Recovery Percentage 1	105.998 %						
Concentration RSD	0.3 %	1.3 %	0.3 %	0.2 %	2.6 %	0.3 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCB
 Analysis started at: 9/20/2024 10:34:09 AM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0003 ppm	0.0111 ppm	0.0002 ppm	0.0096 ppm	0.0000 ppm	0.0000 ppm	0.0005 ppm
Concentration per Run 1	-0.0002 ppm	0.0136 ppm	0.0009 ppm	0.0103 ppm	0.0001 ppm	0.0000 ppm	0.0017 ppm
Concentration per Run 2	-0.0001 ppm	0.0102 ppm	-0.0004 ppm	0.0093 ppm	0.0000 ppm	0.0000 ppm	-0.0023 ppm
Concentration per Run 3	-0.0006 ppm	0.0094 ppm	0.0002 ppm	0.0092 ppm	0.0000 ppm	0.0000 ppm	0.0020 ppm
Recovery Percentage 1	-3.993 %	11.065 %	4.581 %	31.946 %	0.193 %	-0.345 %	0.479 %
Concentration RSD	99.4 %	19.9 %	270.9 %	6.2 %	230.4 %	129.4 %	503.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0018 ppm	-0.0127 ppm	0.0009 ppm
Concentration per Run 1	0.0000 ppm	0.0001 ppm	0.0002 ppm	0.0000 ppm	0.0012 ppm	-0.0186 ppm	0.0009 ppm
Concentration per Run 2	0.0000 ppm	0.0000 ppm	0.0001 ppm	-0.0001 ppm	0.0026 ppm	-0.0017 ppm	0.0012 ppm
Concentration per Run 3	0.0000 ppm	0.0000 ppm	-0.0003 ppm	0.0000 ppm	0.0017 ppm	-0.0179 ppm	0.0005 ppm
Recovery Percentage 1	0.303 %	0.119 %	-0.038 %	-0.473 %	3.664 %	-0.509 %	8.920 %
Concentration RSD	160.9 %	252.3 %	7,937.6 %	110.5 %	37.8 %	75.3 %	38.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0007 ppm	-0.0001 ppm	0.0002 ppm	0.0086 ppm	-0.0004 ppm	0.0003 ppm	0.0000 ppm
Concentration per Run 1	0.0011 ppm	0.0001 ppm	0.0002 ppm	0.0100 ppm	-0.0003 ppm	0.0005 ppm	0.0007 ppm
Concentration per Run 2	0.0015 ppm	-0.0002 ppm	0.0002 ppm	0.0064 ppm	-0.0005 ppm	-0.0002 ppm	-0.0004 ppm
Concentration per Run 3	-0.0004 ppm	-0.0001 ppm	0.0002 ppm	0.0095 ppm	-0.0003 ppm	0.0006 ppm	-0.0002 ppm
Recovery Percentage 1	0.732 %	-0.860 %	0.342 %	0.431 %	-1.443 %	2.963 %	0.059 %
Concentration RSD	140.5 %	173.0 %	10.4 %	22.7 %	40.1 %	155.4 %	1,972.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0007 ppm	-0.0010 ppm	0.0000 ppm	0.0000 ppm	-0.0001 ppm	0.0001 ppm	0.0000 ppm
Concentration per Run 1	0.0005 ppm	-0.0007 ppm	0.0005 ppm	0.0000 ppm	-0.0001 ppm	0.0000 ppm	0.0000 ppm
Concentration per Run 2	0.0010 ppm	-0.0009 ppm	-0.0006 ppm	0.0000 ppm	-0.0002 ppm	0.0003 ppm	-0.0001 ppm
Concentration per Run 3	0.0005 ppm	-0.0012 ppm	0.0000 ppm	0.0000 ppm	0.0001 ppm	0.0001 ppm	0.0000 ppm
Recovery Percentage 1	6.677 %	-0.191 %	-0.088 %	0.013 %	-0.831 %	0.574 %	-0.016 %
Concentration RSD	44.7 %	25.3 %	1,179.9 %	591.0 %	178.2 %	124.0 %	3,563.9 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0004 ppm	96.0542 %	99.3346 %	102.4357 %	95.3827 %	102.0102 %	98.2049 %
Concentration per Run 1	0.0005 ppm	95.6359 %	99.4893 %	102.9540 %	96.8860 %	102.2344 %	98.4388 %
Concentration per Run 2	0.0005 ppm	96.9169 %	99.2422 %	102.2527 %	95.0460 %	101.9971 %	98.0422 %
Concentration per Run 3	0.0003 ppm	95.6098 %	99.2722 %	102.1003 %	94.2160 %	101.7990 %	98.1337 %
Recovery Percentage 1	8.985 %						
Concentration RSD	27.0 %	0.8 %	0.1 %	0.4 %	1.4 %	0.2 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973498-1 WG1973498
 Analysis started at: 9/20/2024 10:40:33 AM
 Comments: <Comment>
 Rack: 1
 Vial: 6

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.0050 ppm	-0.0008 ppm	0.0058 ppm	0.0001 ppm	0.0000 ppm	0.0133 ppm
Concentration per Run 1	-0.0001 ppm	0.0028 ppm	0.0002 ppm	0.0062 ppm	0.0001 ppm	0.0000 ppm	0.0131 ppm
Concentration per Run 2	-0.0002 ppm	0.0086 ppm	-0.0014 ppm	0.0058 ppm	0.0001 ppm	0.0000 ppm	0.0162 ppm
Concentration per Run 3	-0.0004 ppm	0.0037 ppm	-0.0013 ppm	0.0054 ppm	0.0001 ppm	0.0000 ppm	0.0107 ppm
Recovery Percentage 1	-3.369 %	5.024 %	-15.845 %	19.266 %	0.873 %	0.146 %	13.328 %
Concentration RSD	73.8 %	62.0 %	112.0 %	6.3 %	23.6 %	374.1 %	20.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	-0.0007 ppm	0.0001 ppm	-0.0028 ppm	-0.0269 ppm	0.0001 ppm
Concentration per Run 1	0.0000 ppm	0.0000 ppm	-0.0007 ppm	0.0001 ppm	-0.0030 ppm	-0.0287 ppm	0.0005 ppm
Concentration per Run 2	0.0000 ppm	0.0002 ppm	-0.0006 ppm	0.0001 ppm	-0.0028 ppm	-0.0106 ppm	-0.0001 ppm
Concentration per Run 3	0.0000 ppm	0.0000 ppm	-0.0007 ppm	0.0002 ppm	-0.0025 ppm	-0.0416 ppm	-0.0002 ppm
Recovery Percentage 1	-0.130 %	0.288 %	-6.646 %	1.428 %	-5.518 %	-1.078 %	0.732 %
Concentration RSD	268.8 %	212.9 %	11.1 %	39.7 %	9.7 %	57.8 %	495.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0012 ppm	-0.0002 ppm	0.0001 ppm	0.0013 ppm	-0.0006 ppm	0.0002 ppm	0.0004 ppm
Concentration per Run 1	0.0011 ppm	-0.0004 ppm	0.0002 ppm	0.0016 ppm	-0.0007 ppm	0.0006 ppm	-0.0003 ppm
Concentration per Run 2	0.0003 ppm	-0.0001 ppm	0.0001 ppm	-0.0017 ppm	-0.0005 ppm	-0.0002 ppm	0.0008 ppm
Concentration per Run 3	0.0022 ppm	0.0000 ppm	-0.0001 ppm	0.0040 ppm	-0.0006 ppm	0.0002 ppm	0.0006 ppm
Recovery Percentage 1	1.198 %	-1.562 %	0.104 %	0.065 %	-2.415 %	2.026 %	0.738 %
Concentration RSD	82.1 %	135.7 %	291.8 %	219.6 %	23.2 %	214.3 %	162.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0010 ppm	-0.0012 ppm	-0.0003 ppm	0.0000 ppm	-0.0001 ppm	0.0002 ppm	-0.0001 ppm
Concentration per Run 1	-0.0001 ppm	-0.0016 ppm	0.0000 ppm	0.0000 ppm	-0.0002 ppm	-0.0001 ppm	-0.0001 ppm
Concentration per Run 2	0.0015 ppm	-0.0013 ppm	-0.0005 ppm	0.0000 ppm	0.0000 ppm	0.0003 ppm	0.0000 ppm
Concentration per Run 3	0.0015 ppm	-0.0007 ppm	-0.0005 ppm	0.0000 ppm	0.0000 ppm	0.0003 ppm	-0.0002 ppm
Recovery Percentage 1	9.565 %	-0.235 %	-0.697 %	-0.124 %	-0.664 %	0.833 %	-0.730 %
Concentration RSD	93.0 %	40.5 %	82.1 %	220.6 %	209.5 %	123.0 %	117.5 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0003 ppm	97.9266 %	100.3879 %	103.9107 %	98.2596 %	104.4543 %	100.6922 %
Concentration per Run 1	0.0003 ppm	100.9351 %	99.9630 %	104.0646 %	102.6496 %	104.8248 %	100.3665 %
Concentration per Run 2	0.0003 ppm	96.0714 %	100.3207 %	103.8552 %	95.9633 %	104.4390 %	100.8385 %
Concentration per Run 3	0.0002 ppm	96.7733 %	100.8799 %	103.8124 %	96.1660 %	104.0991 %	100.8716 %
Recovery Percentage 1	5.346 %						
Concentration RSD	29.1 %	2.7 %	0.5 %	0.1 %	3.9 %	0.3 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973498-2 WG1973498
 Analysis started at: 9/20/2024 10:46:57 AM
 Comments: <Comment>
 Rack: 1
 Vial: 7

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0524 ppm	2.0800 ppm	0.1236 ppm	1.0216 ppm	2.0481 ppm	0.0520 ppm	10.6441 ppm
Concentration per Run 1	0.0524 ppm	2.0548 ppm	0.1241 ppm	1.0220 ppm	1.9876 ppm	0.0513 ppm	10.4603 ppm
Concentration per Run 2	0.0519 ppm	2.0766 ppm	0.1229 ppm	1.0227 ppm	2.0362 ppm	0.0518 ppm	10.6271 ppm
Concentration per Run 3	0.0528 ppm	2.1086 ppm	0.1237 ppm	1.0202 ppm	2.1205 ppm	0.0530 ppm	10.8450 ppm
Concentration RSD	0.9 %	1.3 %	0.5 %	0.1 %	3.3 %	1.7 %	1.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0570 ppm	0.5263 ppm	0.2112 ppm	0.2615 ppm	1.0537 ppm	10.8174 ppm	-0.0003 ppm
Concentration per Run 1	0.0570 ppm	0.5270 ppm	0.2103 ppm	0.2614 ppm	1.0388 ppm	10.7360 ppm	-0.0002 ppm
Concentration per Run 2	0.0569 ppm	0.5257 ppm	0.2112 ppm	0.2609 ppm	1.0470 ppm	10.8810 ppm	-0.0008 ppm
Concentration per Run 3	0.0571 ppm	0.5262 ppm	0.2120 ppm	0.2623 ppm	1.0755 ppm	10.8353 ppm	0.0000 ppm
Concentration RSD	0.2 %	0.1 %	0.4 %	0.3 %	1.8 %	0.7 %	133.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	10.8693 ppm	0.5275 ppm	1.0393 ppm	10.6056 ppm	0.5310 ppm	0.5643 ppm	0.5225 ppm
Concentration per Run 1	10.8549 ppm	0.5194 ppm	1.0401 ppm	10.5536 ppm	0.5324 ppm	0.5650 ppm	0.5224 ppm
Concentration per Run 2	10.8760 ppm	0.5280 ppm	1.0383 ppm	10.5824 ppm	0.5306 ppm	0.5637 ppm	0.5229 ppm
Concentration per Run 3	10.8771 ppm	0.5351 ppm	1.0395 ppm	10.6808 ppm	0.5301 ppm	0.5641 ppm	0.5221 ppm
Concentration RSD	0.1 %	1.5 %	0.1 %	0.6 %	0.2 %	0.1 %	0.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1239 ppm	1.0763 ppm	1.0442 ppm	0.9862 ppm	1.0664 ppm	0.1261 ppm	0.5252 ppm
Concentration per Run 1	0.1227 ppm	1.0778 ppm	1.0473 ppm	0.9755 ppm	1.0631 ppm	0.1278 ppm	0.5239 ppm
Concentration per Run 2	0.1240 ppm	1.0758 ppm	1.0424 ppm	0.9857 ppm	1.0658 ppm	0.1255 ppm	0.5248 ppm
Concentration per Run 3	0.1249 ppm	1.0752 ppm	1.0428 ppm	0.9975 ppm	1.0703 ppm	0.1251 ppm	0.5268 ppm
Concentration RSD	0.9 %	0.1 %	0.3 %	1.1 %	0.3 %	1.2 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5382 ppm	96.7262 %	98.1707 %	101.1900 %	98.4748 %	97.7629 %	98.1027 %
Concentration per Run 1	0.5388 ppm	97.5335 %	98.3994 %	101.1862 %	100.5417 %	97.8522 %	98.4534 %
Concentration per Run 2	0.5366 ppm	96.5484 %	97.9692 %	101.2509 %	98.4018 %	97.7531 %	98.0663 %
Concentration per Run 3	0.5392 ppm	96.0968 %	98.1436 %	101.1329 %	96.4808 %	97.6834 %	97.7885 %
Concentration RSD	0.3 %	0.8 %	0.2 %	0.1 %	2.1 %	0.1 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2452799-01 WG1973498
 Analysis started at: 9/20/2024 10:53:10 AM
 Comments: <Comment>
 Rack: 1
 Vial: 15

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0001 ppm	0.0148 ppm	0.0001 ppm	0.0047 ppm	0.0012 ppm	0.0000 ppm	0.0474 ppm
Concentration per Run 1	-0.0001 ppm	0.0183 ppm	-0.0008 ppm	0.0049 ppm	0.0012 ppm	0.0000 ppm	0.0467 ppm
Concentration per Run 2	0.0003 ppm	0.0101 ppm	0.0004 ppm	0.0045 ppm	0.0012 ppm	0.0000 ppm	0.0466 ppm
Concentration per Run 3	0.0000 ppm	0.0162 ppm	0.0007 ppm	0.0046 ppm	0.0013 ppm	0.0000 ppm	0.0488 ppm
Concentration RSD	273.4 %	28.7 %	777.1 %	5.4 %	3.8 %	157.2 %	2.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	-0.0006 ppm	0.0004 ppm	0.0153 ppm	-0.0128 ppm	-0.0003 ppm
Concentration per Run 1	0.0000 ppm	0.0001 ppm	-0.0007 ppm	0.0004 ppm	0.0143 ppm	-0.0079 ppm	-0.0002 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	-0.0004 ppm	0.0003 ppm	0.0161 ppm	-0.0084 ppm	0.0008 ppm
Concentration per Run 3	0.0000 ppm	0.0003 ppm	-0.0006 ppm	0.0004 ppm	0.0156 ppm	-0.0222 ppm	-0.0013 ppm
Concentration RSD	8,301.0 %	82.1 %	31.2 %	16.0 %	5.9 %	63.0 %	410.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0093 ppm	0.0002 ppm	0.0007 ppm	0.0092 ppm	-0.0005 ppm	0.0022 ppm	0.0008 ppm
Concentration per Run 1	0.0089 ppm	0.0002 ppm	0.0008 ppm	0.0095 ppm	-0.0005 ppm	0.0022 ppm	0.0017 ppm
Concentration per Run 2	0.0099 ppm	0.0002 ppm	0.0008 ppm	0.0115 ppm	-0.0005 ppm	0.0023 ppm	-0.0002 ppm
Concentration per Run 3	0.0091 ppm	0.0000 ppm	0.0006 ppm	0.0066 ppm	-0.0004 ppm	0.0021 ppm	0.0008 ppm
Concentration RSD	5.4 %	74.3 %	11.3 %	26.9 %	12.2 %	4.3 %	125.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0014 ppm	0.0151 ppm	-0.0002 ppm	0.0002 ppm	0.0004 ppm	0.0001 ppm	0.0001 ppm
Concentration per Run 1	0.0011 ppm	0.0153 ppm	-0.0002 ppm	0.0002 ppm	0.0005 ppm	-0.0003 ppm	0.0002 ppm
Concentration per Run 2	0.0011 ppm	0.0150 ppm	-0.0002 ppm	0.0002 ppm	0.0003 ppm	0.0007 ppm	0.0001 ppm
Concentration per Run 3	0.0021 ppm	0.0149 ppm	-0.0003 ppm	0.0002 ppm	0.0004 ppm	-0.0002 ppm	-0.0001 ppm
Concentration RSD	40.0 %	1.4 %	33.4 %	2.9 %	31.7 %	826.0 %	152.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0029 ppm	97.3959 %	99.9694 %	102.6581 %	97.8694 %	103.3778 %	99.6587 %
Concentration per Run 1	0.0029 ppm	98.8780 %	99.7889 %	102.7225 %	100.2535 %	103.3836 %	99.5112 %
Concentration per Run 2	0.0029 ppm	97.4023 %	99.7962 %	102.7134 %	97.4752 %	103.5577 %	99.6657 %
Concentration per Run 3	0.0029 ppm	95.9073 %	100.3232 %	102.5385 %	95.8795 %	103.1920 %	99.7992 %
Concentration RSD	1.5 %	1.5 %	0.3 %	0.1 %	2.3 %	0.2 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2452868-06 WG1973498
 Analysis started at: 9/20/2024 10:59:33 AM
 Comments: <Comment>
 Rack: 1
 Vial: 16

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0059 ppm	0.0003 ppm	0.0033 ppm	0.0001 ppm	0.0000 ppm	0.0121 ppm
Concentration per Run 1	0.0000 ppm	0.0065 ppm	0.0009 ppm	0.0037 ppm	0.0001 ppm	0.0000 ppm	0.0156 ppm
Concentration per Run 2	-0.0002 ppm	0.0046 ppm	-0.0002 ppm	0.0030 ppm	0.0000 ppm	0.0000 ppm	0.0091 ppm
Concentration per Run 3	0.0001 ppm	0.0064 ppm	0.0002 ppm	0.0032 ppm	0.0002 ppm	0.0000 ppm	0.0117 ppm
Concentration RSD	321.1 %	18.1 %	187.8 %	10.9 %	72.3 %	165.6 %	26.7 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	-0.0005 ppm	0.0000 ppm	-0.0010 ppm	-0.0368 ppm	-0.0006 ppm
Concentration per Run 1	0.0000 ppm	0.0000 ppm	-0.0005 ppm	0.0000 ppm	-0.0001 ppm	-0.0384 ppm	-0.0008 ppm
Concentration per Run 2	0.0000 ppm	0.0000 ppm	-0.0005 ppm	0.0002 ppm	-0.0009 ppm	-0.0434 ppm	-0.0004 ppm
Concentration per Run 3	0.0000 ppm	0.0003 ppm	-0.0006 ppm	-0.0001 ppm	-0.0019 ppm	-0.0285 ppm	-0.0005 ppm
Concentration RSD	85.5 %	183.2 %	18.0 %	313.1 %	92.2 %	20.5 %	33.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0021 ppm	-0.0003 ppm	0.0002 ppm	0.0045 ppm	-0.0006 ppm	0.0000 ppm	0.0002 ppm
Concentration per Run 1	0.0041 ppm	-0.0003 ppm	0.0003 ppm	0.0072 ppm	-0.0008 ppm	-0.0002 ppm	-0.0005 ppm
Concentration per Run 2	0.0010 ppm	-0.0003 ppm	0.0002 ppm	0.0023 ppm	-0.0006 ppm	0.0001 ppm	0.0005 ppm
Concentration per Run 3	0.0013 ppm	-0.0002 ppm	0.0002 ppm	0.0040 ppm	-0.0005 ppm	-0.0001 ppm	0.0005 ppm
Concentration RSD	79.5 %	16.7 %	27.3 %	55.7 %	24.3 %	443.9 %	315.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0016 ppm	0.0038 ppm	-0.0002 ppm	0.0001 ppm	-0.0001 ppm	-0.0004 ppm	-0.0001 ppm
Concentration per Run 1	0.0001 ppm	0.0040 ppm	-0.0002 ppm	0.0001 ppm	0.0000 ppm	-0.0004 ppm	0.0000 ppm
Concentration per Run 2	0.0022 ppm	0.0035 ppm	-0.0004 ppm	0.0001 ppm	-0.0001 ppm	-0.0005 ppm	-0.0001 ppm
Concentration per Run 3	0.0026 ppm	0.0039 ppm	0.0001 ppm	0.0001 ppm	-0.0001 ppm	-0.0005 ppm	-0.0001 ppm
Concentration RSD	79.7 %	6.1 %	138.3 %	29.9 %	106.9 %	2.3 %	131.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0003 ppm	97.5011 %	100.1973 %	103.1828 %	97.6531 %	103.6189 %	100.1653 %
Concentration per Run 1	0.0004 ppm	96.8884 %	100.4415 %	103.2260 %	97.3423 %	104.0994 %	100.2735 %
Concentration per Run 2	0.0003 ppm	99.1440 %	99.9858 %	103.3351 %	99.3214 %	103.4816 %	100.1220 %
Concentration per Run 3	0.0003 ppm	96.4709 %	100.1646 %	102.9872 %	96.2956 %	103.2756 %	100.1005 %
Concentration RSD	2.5 %	1.5 %	0.2 %	0.2 %	1.6 %	0.4 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2453058-01 WG1973498
 Analysis started at: 9/20/2024 11:05:57 AM
 Comments: <Comment>
 Rack: 1
 Vial: 8

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.0026 ppm	-0.0004 ppm	0.0131 ppm	0.0217 ppm	0.0000 ppm	18.1610 ppm
Concentration per Run 1	-0.0006 ppm	0.0052 ppm	0.0001 ppm	0.0131 ppm	0.0212 ppm	0.0000 ppm	17.6413 ppm
Concentration per Run 2	0.0001 ppm	0.0024 ppm	-0.0009 ppm	0.0130 ppm	0.0221 ppm	0.0000 ppm	18.4389 ppm
Concentration per Run 3	0.0000 ppm	0.0001 ppm	-0.0005 ppm	0.0130 ppm	0.0219 ppm	0.0000 ppm	18.4028 ppm
Concentration RSD	202.9 %	97.7 %	124.3 %	0.4 %	2.1 %	49.2 %	2.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0001 ppm	0.0002 ppm	-0.0002 ppm	0.0008 ppm	0.0826 ppm	1.7127 ppm	-0.0011 ppm
Concentration per Run 1	-0.0001 ppm	0.0002 ppm	-0.0001 ppm	0.0009 ppm	0.0802 ppm	1.6728 ppm	-0.0014 ppm
Concentration per Run 2	-0.0001 ppm	0.0002 ppm	0.0001 ppm	0.0006 ppm	0.0846 ppm	1.7686 ppm	-0.0012 ppm
Concentration per Run 3	-0.0001 ppm	0.0001 ppm	-0.0004 ppm	0.0009 ppm	0.0831 ppm	1.6965 ppm	-0.0008 ppm
Concentration RSD	19.4 %	17.8 %	143.9 %	21.7 %	2.7 %	2.9 %	28.0 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	3.2615 ppm	0.0562 ppm	0.0003 ppm	2.3710 ppm	-0.0005 ppm	0.0000 ppm	0.0003 ppm
Concentration per Run 1	3.2626 ppm	0.0541 ppm	0.0002 ppm	2.3222 ppm	-0.0003 ppm	0.0004 ppm	0.0004 ppm
Concentration per Run 2	3.2655 ppm	0.0572 ppm	0.0004 ppm	2.3988 ppm	-0.0005 ppm	0.0000 ppm	0.0001 ppm
Concentration per Run 3	3.2563 ppm	0.0572 ppm	0.0002 ppm	2.3921 ppm	-0.0007 ppm	-0.0003 ppm	0.0005 ppm
Concentration RSD	0.1 %	3.2 %	48.1 %	1.8 %	38.1 %	900.3 %	60.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0013 ppm	4.4514 ppm	-0.0003 ppm	0.0530 ppm	-0.0002 ppm	0.0000 ppm	0.0002 ppm
Concentration per Run 1	0.0020 ppm	4.4480 ppm	-0.0001 ppm	0.0517 ppm	-0.0001 ppm	-0.0003 ppm	0.0002 ppm
Concentration per Run 2	0.0001 ppm	4.4740 ppm	-0.0001 ppm	0.0536 ppm	-0.0003 ppm	0.0002 ppm	0.0002 ppm
Concentration per Run 3	0.0019 ppm	4.4323 ppm	-0.0008 ppm	0.0536 ppm	-0.0002 ppm	0.0002 ppm	0.0001 ppm
Concentration RSD	78.6 %	0.5 %	120.0 %	2.1 %	45.4 %	687.6 %	17.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0014 ppm	98.2435 %	98.8773 %	101.8911 %	98.2034 %	99.9015 %	98.1620 %
Concentration per Run 1	0.0015 ppm	100.4876 %	98.7589 %	102.1407 %	101.2667 %	100.2053 %	98.0686 %
Concentration per Run 2	0.0014 ppm	96.8964 %	99.2269 %	101.5812 %	96.3810 %	99.8879 %	98.6743 %
Concentration per Run 3	0.0014 ppm	97.3464 %	98.6461 %	101.9515 %	96.9624 %	99.6114 %	97.7432 %
Concentration RSD	3.1 %	2.0 %	0.3 %	0.3 %	2.7 %	0.3 %	0.5 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973498-3 WG1973498
 Analysis started at: 9/20/2024 11:12:17 AM
 Comments: <Comment>
 Rack: 1
 Vial: 9

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0517 ppm	2.0442 ppm	0.1212 ppm	1.0121 ppm	2.0482 ppm	0.0514 ppm	28.2395 ppm
Concentration per Run 1	0.0515 ppm	2.0189 ppm	0.1199 ppm	1.0127 ppm	2.0191 ppm	0.0510 ppm	28.0275 ppm
Concentration per Run 2	0.0516 ppm	2.0626 ppm	0.1213 ppm	1.0133 ppm	2.0619 ppm	0.0517 ppm	28.3258 ppm
Concentration per Run 3	0.0520 ppm	2.0512 ppm	0.1223 ppm	1.0105 ppm	2.0637 ppm	0.0515 ppm	28.3651 ppm
Concentration RSD	0.6 %	1.1 %	1.0 %	0.1 %	1.2 %	0.7 %	0.7 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0544 ppm	0.5029 ppm	0.2047 ppm	0.2554 ppm	1.1156 ppm	12.3204 ppm	-0.0012 ppm
Concentration per Run 1	0.0544 ppm	0.5033 ppm	0.2045 ppm	0.2562 ppm	1.1057 ppm	12.1853 ppm	-0.0014 ppm
Concentration per Run 2	0.0544 ppm	0.5031 ppm	0.2060 ppm	0.2549 ppm	1.1236 ppm	12.3291 ppm	-0.0011 ppm
Concentration per Run 3	0.0544 ppm	0.5024 ppm	0.2037 ppm	0.2551 ppm	1.1176 ppm	12.4468 ppm	-0.0013 ppm
Concentration RSD	0.0 %	0.1 %	0.6 %	0.3 %	0.8 %	1.1 %	13.1 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	13.6940 ppm	0.5676 ppm	0.9935 ppm	12.7033 ppm	0.5068 ppm	0.5374 ppm	0.5102 ppm
Concentration per Run 1	13.6656 ppm	0.5636 ppm	0.9923 ppm	12.5659 ppm	0.5068 ppm	0.5373 ppm	0.5100 ppm
Concentration per Run 2	13.7542 ppm	0.5686 ppm	0.9929 ppm	12.8057 ppm	0.5068 ppm	0.5380 ppm	0.5115 ppm
Concentration per Run 3	13.6624 ppm	0.5705 ppm	0.9952 ppm	12.7385 ppm	0.5069 ppm	0.5370 ppm	0.5092 ppm
Concentration RSD	0.4 %	0.6 %	0.2 %	1.0 %	0.0 %	0.1 %	0.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1234 ppm	5.4440 ppm	0.9966 ppm	1.0114 ppm	1.0312 ppm	0.1213 ppm	0.5090 ppm
Concentration per Run 1	0.1219 ppm	5.4499 ppm	0.9968 ppm	1.0006 ppm	1.0311 ppm	0.1213 ppm	0.5086 ppm
Concentration per Run 2	0.1250 ppm	5.4485 ppm	0.9978 ppm	1.0186 ppm	1.0373 ppm	0.1218 ppm	0.5120 ppm
Concentration per Run 3	0.1232 ppm	5.4336 ppm	0.9953 ppm	1.0148 ppm	1.0252 ppm	0.1210 ppm	0.5062 ppm
Concentration RSD	1.3 %	0.2 %	0.1 %	0.9 %	0.6 %	0.3 %	0.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5169 ppm	97.6001 %	98.5120 %	101.7551 %	97.9014 %	97.0959 %	97.8984 %
Concentration per Run 1	0.5166 ppm	97.4670 %	98.4142 %	101.4581 %	98.7687 %	96.7714 %	97.8700 %
Concentration per Run 2	0.5161 ppm	97.7975 %	98.6633 %	101.7672 %	97.3971 %	97.3322 %	97.6625 %
Concentration per Run 3	0.5181 ppm	97.5358 %	98.4585 %	102.0402 %	97.5384 %	97.1841 %	98.1627 %
Concentration RSD	0.2 %	0.2 %	0.1 %	0.3 %	0.8 %	0.3 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973498-4 WG1973498
 Analysis started at: 9/20/2024 11:18:30 AM
 Comments: <Comment>
 Rack: 1
 Vial: 10

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0529 ppm	2.1179 ppm	0.1262 ppm	1.0548 ppm	2.1155 ppm	0.0532 ppm	29.1374 ppm
Concentration per Run 1	0.0527 ppm	2.1016 ppm	0.1235 ppm	1.0357 ppm	2.1084 ppm	0.0525 ppm	28.7251 ppm
Concentration per Run 2	0.0527 ppm	2.1174 ppm	0.1269 ppm	1.0704 ppm	2.1527 ppm	0.0535 ppm	29.3336 ppm
Concentration per Run 3	0.0532 ppm	2.1349 ppm	0.1281 ppm	1.0583 ppm	2.0855 ppm	0.0535 ppm	29.3536 ppm
Concentration RSD	0.5 %	0.8 %	1.9 %	1.7 %	1.6 %	1.1 %	1.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0566 ppm	0.5234 ppm	0.2102 ppm	0.2635 ppm	1.1504 ppm	12.6590 ppm	-0.0003 ppm
Concentration per Run 1	0.0556 ppm	0.5142 ppm	0.2100 ppm	0.2633 ppm	1.1349 ppm	12.5210 ppm	-0.0005 ppm
Concentration per Run 2	0.0573 ppm	0.5310 ppm	0.2101 ppm	0.2632 ppm	1.1569 ppm	12.7318 ppm	0.0002 ppm
Concentration per Run 3	0.0569 ppm	0.5250 ppm	0.2104 ppm	0.2639 ppm	1.1596 ppm	12.7243 ppm	-0.0006 ppm
Concentration RSD	1.5 %	1.6 %	0.1 %	0.1 %	1.2 %	0.9 %	130.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	14.1025 ppm	0.5864 ppm	1.0338 ppm	13.0912 ppm	0.5267 ppm	0.5600 ppm	0.5322 ppm
Concentration per Run 1	14.0914 ppm	0.5774 ppm	1.0141 ppm	13.0191 ppm	0.5164 ppm	0.5511 ppm	0.5227 ppm
Concentration per Run 2	14.1254 ppm	0.5883 ppm	1.0487 ppm	13.1231 ppm	0.5343 ppm	0.5681 ppm	0.5414 ppm
Concentration per Run 3	14.0907 ppm	0.5935 ppm	1.0385 ppm	13.1314 ppm	0.5293 ppm	0.5609 ppm	0.5326 ppm
Concentration RSD	0.1 %	1.4 %	1.7 %	0.5 %	1.8 %	1.5 %	1.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1278 ppm	5.6394 ppm	1.0378 ppm	1.0480 ppm	1.0600 ppm	0.1255 ppm	0.5235 ppm
Concentration per Run 1	0.1239 ppm	5.5383 ppm	1.0187 ppm	1.0369 ppm	1.0607 ppm	0.1230 ppm	0.5240 ppm
Concentration per Run 2	0.1290 ppm	5.7226 ppm	1.0528 ppm	1.0523 ppm	1.0605 ppm	0.1272 ppm	0.5246 ppm
Concentration per Run 3	0.1307 ppm	5.6572 ppm	1.0420 ppm	1.0547 ppm	1.0589 ppm	0.1262 ppm	0.5219 ppm
Concentration RSD	2.8 %	1.7 %	1.7 %	0.9 %	0.1 %	1.8 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5372 ppm	96.9235 %	98.6211 %	100.5230 %	97.7606 %	96.4689 %	97.8218 %
Concentration per Run 1	0.5283 ppm	97.5896 %	98.5980 %	102.1522 %	99.0957 %	97.9499 %	97.7586 %
Concentration per Run 2	0.5427 ppm	96.4988 %	98.7587 %	99.3259 %	97.0791 %	95.2154 %	97.9031 %
Concentration per Run 3	0.5406 ppm	96.6823 %	98.5068 %	100.0910 %	97.1069 %	96.2415 %	97.8038 %
Concentration RSD	1.4 %	0.6 %	0.1 %	1.5 %	1.2 %	1.4 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973498-5 WG1973498
 Analysis started at: 9/20/2024 11:24:42 AM
 Comments: <Comment>
 Rack: 1
 Vial: 11

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0498 ppm	1.9753 ppm	0.1193 ppm	1.0047 ppm	1.9598 ppm	0.0497 ppm	27.6459 ppm
Concentration per Run 1	0.0499 ppm	1.9500 ppm	0.1207 ppm	1.0047 ppm	1.9576 ppm	0.0491 ppm	27.3534 ppm
Concentration per Run 2	0.0493 ppm	1.9785 ppm	0.1194 ppm	1.0067 ppm	1.9616 ppm	0.0497 ppm	27.6690 ppm
Concentration per Run 3	0.0503 ppm	1.9974 ppm	0.1176 ppm	1.0027 ppm	1.9602 ppm	0.0502 ppm	27.9154 ppm
Concentration RSD	1.0 %	1.2 %	1.3 %	0.2 %	0.1 %	1.1 %	1.0 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0529 ppm	0.4894 ppm	0.1976 ppm	0.2474 ppm	1.0775 ppm	12.0956 ppm	-0.0003 ppm
Concentration per Run 1	0.0529 ppm	0.4894 ppm	0.1959 ppm	0.2475 ppm	1.0646 ppm	11.9904 ppm	-0.0004 ppm
Concentration per Run 2	0.0528 ppm	0.4896 ppm	0.1986 ppm	0.2474 ppm	1.0747 ppm	12.1453 ppm	0.0003 ppm
Concentration per Run 3	0.0529 ppm	0.4892 ppm	0.1985 ppm	0.2475 ppm	1.0933 ppm	12.1509 ppm	-0.0009 ppm
Concentration RSD	0.1 %	0.0 %	0.8 %	0.0 %	1.4 %	0.8 %	199.8 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	13.4829 ppm	0.5507 ppm	0.9793 ppm	12.4989 ppm	0.4920 ppm	0.5305 ppm	0.4954 ppm
Concentration per Run 1	13.4175 ppm	0.5456 ppm	0.9790 ppm	12.4146 ppm	0.4914 ppm	0.5300 ppm	0.4954 ppm
Concentration per Run 2	13.5076 ppm	0.5504 ppm	0.9809 ppm	12.4928 ppm	0.4930 ppm	0.5310 ppm	0.4984 ppm
Concentration per Run 3	13.5236 ppm	0.5562 ppm	0.9780 ppm	12.5892 ppm	0.4917 ppm	0.5304 ppm	0.4924 ppm
Concentration RSD	0.4 %	1.0 %	0.1 %	0.7 %	0.2 %	0.1 %	0.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1208 ppm	5.2751 ppm	0.9971 ppm	0.9970 ppm	1.0156 ppm	0.1191 ppm	0.4927 ppm
Concentration per Run 1	0.1198 ppm	5.2763 ppm	0.9966 ppm	0.9881 ppm	1.0125 ppm	0.1176 ppm	0.4907 ppm
Concentration per Run 2	0.1210 ppm	5.2858 ppm	0.9978 ppm	0.9979 ppm	1.0178 ppm	0.1201 ppm	0.4941 ppm
Concentration per Run 3	0.1215 ppm	5.2632 ppm	0.9968 ppm	1.0049 ppm	1.0167 ppm	0.1195 ppm	0.4932 ppm
Concentration RSD	0.7 %	0.2 %	0.1 %	0.8 %	0.3 %	1.1 %	0.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5014 ppm	97.7078 %	99.0359 %	101.6473 %	98.2303 %	97.5105 %	98.6092 %
Concentration per Run 1	0.5019 ppm	97.9047 %	99.0640 %	101.8322 %	99.5377 %	97.6974 %	98.8494 %
Concentration per Run 2	0.5011 ppm	97.6824 %	99.3406 %	101.2722 %	98.0200 %	97.1260 %	98.7317 %
Concentration per Run 3	0.5012 ppm	97.5363 %	98.7032 %	101.8375 %	97.1332 %	97.7081 %	98.2466 %
Concentration RSD	0.1 %	0.2 %	0.3 %	0.3 %	1.2 %	0.3 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973498-6D5 WG1973498
 Analysis started at: 9/20/2024 11:30:55 AM
 Comments: <Comment>
 Rack: 1
 Vial: 12

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0065 ppm	-0.0007 ppm	0.0048 ppm	0.0044 ppm	0.0000 ppm	3.7373 ppm
Concentration per Run 1	-0.0003 ppm	0.0067 ppm	0.0002 ppm	0.0049 ppm	0.0043 ppm	0.0000 ppm	3.6812 ppm
Concentration per Run 2	-0.0003 ppm	0.0072 ppm	-0.0008 ppm	0.0048 ppm	0.0044 ppm	0.0000 ppm	3.7480 ppm
Concentration per Run 3	0.0003 ppm	0.0056 ppm	-0.0014 ppm	0.0045 ppm	0.0045 ppm	0.0000 ppm	3.7828 ppm
Concentration RSD	342.2 %	12.1 %	120.3 %	4.9 %	2.0 %	189.1 %	1.4 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	-0.0002 ppm	0.0000 ppm	0.0159 ppm	0.3240 ppm	0.0002 ppm
Concentration per Run 1	0.0000 ppm	0.0002 ppm	-0.0003 ppm	0.0001 ppm	0.0152 ppm	0.3172 ppm	0.0002 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	-0.0003 ppm	0.0000 ppm	0.0160 ppm	0.3243 ppm	-0.0002 ppm
Concentration per Run 3	0.0000 ppm	0.0000 ppm	-0.0002 ppm	0.0000 ppm	0.0166 ppm	0.3306 ppm	0.0007 ppm
Concentration RSD	61.1 %	72.5 %	17.5 %	74.3 %	4.4 %	2.1 %	205.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.6613 ppm	0.0112 ppm	0.0010 ppm	0.4804 ppm	-0.0005 ppm	0.0003 ppm	0.0014 ppm
Concentration per Run 1	0.6631 ppm	0.0110 ppm	0.0011 ppm	0.4736 ppm	-0.0006 ppm	0.0003 ppm	0.0012 ppm
Concentration per Run 2	0.6612 ppm	0.0113 ppm	0.0011 ppm	0.4867 ppm	-0.0003 ppm	0.0004 ppm	0.0015 ppm
Concentration per Run 3	0.6595 ppm	0.0113 ppm	0.0008 ppm	0.4808 ppm	-0.0004 ppm	0.0001 ppm	0.0014 ppm
Concentration RSD	0.3 %	1.7 %	18.2 %	1.4 %	29.6 %	51.6 %	10.3 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0002 ppm	0.8909 ppm	0.0004 ppm	0.0108 ppm	0.0000 ppm	-0.0001 ppm	0.0000 ppm
Concentration per Run 1	0.0003 ppm	0.8891 ppm	0.0004 ppm	0.0106 ppm	0.0000 ppm	0.0000 ppm	0.0001 ppm
Concentration per Run 2	0.0006 ppm	0.8904 ppm	0.0005 ppm	0.0108 ppm	0.0002 ppm	0.0004 ppm	0.0000 ppm
Concentration per Run 3	-0.0004 ppm	0.8931 ppm	0.0002 ppm	0.0109 ppm	-0.0003 ppm	-0.0008 ppm	-0.0001 ppm
Concentration RSD	269.2 %	0.2 %	39.9 %	1.5 %	699.6 %	448.2 %	564.9 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0007 ppm	96.8593 %	99.5284 %	102.4790 %	96.8112 %	102.0226 %	99.2287 %
Concentration per Run 1	0.0007 ppm	97.7957 %	99.1453 %	102.3268 %	98.9925 %	101.8867 %	98.8813 %
Concentration per Run 2	0.0007 ppm	96.8705 %	99.4899 %	102.8998 %	96.4308 %	102.7632 %	99.7187 %
Concentration per Run 3	0.0007 ppm	95.9115 %	99.9501 %	102.2105 %	95.0102 %	101.4178 %	99.0861 %
Concentration RSD	4.2 %	1.0 %	0.4 %	0.4 %	2.1 %	0.7 %	0.4 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCV
 Analysis started at: 9/20/2024 11:37:19 AM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5106 ppm	0.5070 ppm	0.4977 ppm	0.5060 ppm	0.4968 ppm	0.5078 ppm	0.5123 ppm
Concentration per Run 1	0.5105 ppm	0.4949 ppm	0.4976 ppm	0.5043 ppm	0.4860 ppm	0.4959 ppm	0.4992 ppm
Concentration per Run 2	0.5112 ppm	0.5118 ppm	0.4976 ppm	0.5070 ppm	0.5017 ppm	0.5118 ppm	0.5180 ppm
Concentration per Run 3	0.5101 ppm	0.5143 ppm	0.4978 ppm	0.5068 ppm	0.5027 ppm	0.5157 ppm	0.5197 ppm
Recovery Percentage 1	102.120 %	101.396 %	99.534 %	101.210 %	99.357 %	101.561 %	102.456 %
Concentration RSD	0.1 %	2.1 %	0.0 %	0.3 %	1.9 %	2.1 %	2.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.5109 ppm	0.5153 ppm	0.5059 ppm	0.4823 ppm	0.5046 ppm	5.1649 ppm	0.4857 ppm
Concentration per Run 1	0.5118 ppm	0.5147 ppm	0.5075 ppm	0.4817 ppm	0.4928 ppm	5.0501 ppm	0.4749 ppm
Concentration per Run 2	0.5101 ppm	0.5157 ppm	0.5053 ppm	0.4839 ppm	0.5080 ppm	5.2272 ppm	0.4908 ppm
Concentration per Run 3	0.5109 ppm	0.5155 ppm	0.5048 ppm	0.4814 ppm	0.5130 ppm	5.2173 ppm	0.4915 ppm
Recovery Percentage 1	102.184 %	103.054 %	101.174 %	96.465 %	100.921 %	103.297 %	97.149 %
Concentration RSD	0.2 %	0.1 %	0.3 %	0.3 %	2.1 %	1.9 %	1.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5095 ppm	0.4991 ppm	0.4946 ppm	9.8061 ppm	0.5143 ppm	0.5181 ppm	0.5087 ppm
Concentration per Run 1	0.5109 ppm	0.4896 ppm	0.4936 ppm	9.5843 ppm	0.5139 ppm	0.5178 ppm	0.5075 ppm
Concentration per Run 2	0.5075 ppm	0.5029 ppm	0.4951 ppm	9.9061 ppm	0.5146 ppm	0.5183 ppm	0.5077 ppm
Concentration per Run 3	0.5102 ppm	0.5047 ppm	0.4950 ppm	9.9278 ppm	0.5144 ppm	0.5182 ppm	0.5108 ppm
Recovery Percentage 1	101.905 %	99.810 %	98.914 %	98.061 %	102.859 %	103.621 %	101.734 %
Concentration RSD	0.4 %	1.7 %	0.2 %	2.0 %	0.1 %	0.1 %	0.4 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.5121 ppm	5.5707 ppm	0.4882 ppm	0.4703 ppm	0.5089 ppm	0.5225 ppm	0.5003 ppm
Concentration per Run 1	0.5097 ppm	5.5536 ppm	0.4884 ppm	0.4600 ppm	0.5102 ppm	0.5210 ppm	0.5017 ppm
Concentration per Run 2	0.5148 ppm	5.5820 ppm	0.4866 ppm	0.4747 ppm	0.5092 ppm	0.5231 ppm	0.4997 ppm
Concentration per Run 3	0.5118 ppm	5.5765 ppm	0.4894 ppm	0.4761 ppm	0.5073 ppm	0.5234 ppm	0.4995 ppm
Recovery Percentage 1	102.418 %	106.109 %	97.631 %	94.053 %	101.786 %	104.508 %	100.061 %
Concentration RSD	0.5 %	0.3 %	0.3 %	1.9 %	0.3 %	0.3 %	0.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5221 ppm	95.8576 %	97.6394 %	100.5514 %	96.0468 %	98.0885 %	97.1574 %
Concentration per Run 1	0.5232 ppm	95.8796 %	97.9076 %	100.6642 %	97.8946 %	98.2217 %	97.1721 %
Concentration per Run 2	0.5212 ppm	96.0393 %	97.7094 %	100.4102 %	95.6186 %	97.9010 %	97.1766 %
Concentration per Run 3	0.5220 ppm	95.6538 %	97.3013 %	100.5797 %	94.6272 %	98.1428 %	97.1236 %
Recovery Percentage 1	104.428 %						
Concentration RSD	0.2 %	0.2 %	0.3 %	0.1 %	1.7 %	0.2 %	0.0 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCB
 Analysis started at: 9/20/2024 11:43:21 AM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0080 ppm	-0.0007 ppm	0.0017 ppm	0.0001 ppm	0.0000 ppm	-0.0001 ppm
Concentration per Run 1	-0.0001 ppm	0.0083 ppm	-0.0010 ppm	0.0015 ppm	0.0001 ppm	0.0000 ppm	-0.0007 ppm
Concentration per Run 2	0.0002 ppm	0.0104 ppm	-0.0004 ppm	0.0017 ppm	0.0000 ppm	0.0000 ppm	0.0008 ppm
Concentration per Run 3	0.0000 ppm	0.0054 ppm	-0.0008 ppm	0.0017 ppm	0.0000 ppm	0.0000 ppm	-0.0004 ppm
Recovery Percentage 1	0.442 %	8.009 %	-14.495 %	5.537 %	0.524 %	-0.183 %	-0.086 %
Concentration RSD	463.0 %	31.2 %	46.2 %	7.0 %	104.3 %	243.8 %	933.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	0.0000 ppm	-0.0001 ppm	0.0007 ppm	-0.0244 ppm	0.0007 ppm
Concentration per Run 1	0.0000 ppm	0.0002 ppm	0.0001 ppm	-0.0001 ppm	-0.0003 ppm	-0.0185 ppm	0.0012 ppm
Concentration per Run 2	-0.0001 ppm	0.0002 ppm	0.0000 ppm	-0.0001 ppm	0.0019 ppm	-0.0270 ppm	0.0001 ppm
Concentration per Run 3	0.0000 ppm	0.0001 ppm	-0.0002 ppm	-0.0003 ppm	0.0006 ppm	-0.0278 ppm	0.0006 ppm
Recovery Percentage 1	-0.292 %	0.739 %	-0.225 %	-1.294 %	1.400 %	-0.978 %	6.577 %
Concentration RSD	426.4 %	25.2 %	604.1 %	87.8 %	159.3 %	21.0 %	84.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0004 ppm	0.0000 ppm	0.0004 ppm	0.0037 ppm	-0.0002 ppm	0.0004 ppm	0.0001 ppm
Concentration per Run 1	-0.0014 ppm	0.0001 ppm	0.0004 ppm	0.0033 ppm	-0.0002 ppm	0.0006 ppm	0.0000 ppm
Concentration per Run 2	0.0011 ppm	-0.0001 ppm	0.0003 ppm	0.0042 ppm	-0.0002 ppm	0.0003 ppm	0.0002 ppm
Concentration per Run 3	-0.0008 ppm	-0.0001 ppm	0.0003 ppm	0.0035 ppm	-0.0001 ppm	0.0003 ppm	0.0001 ppm
Recovery Percentage 1	-0.388 %	0.040 %	0.713 %	0.183 %	-0.694 %	4.025 %	0.192 %
Concentration RSD	334.2 %	3,053.3 %	20.4 %	13.4 %	40.1 %	46.2 %	72.4 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0005 ppm	-0.0010 ppm	0.0000 ppm	0.0000 ppm	-0.0001 ppm	0.0002 ppm	0.0001 ppm
Concentration per Run 1	0.0003 ppm	-0.0006 ppm	0.0001 ppm	0.0000 ppm	0.0000 ppm	0.0004 ppm	0.0000 ppm
Concentration per Run 2	0.0009 ppm	-0.0011 ppm	0.0000 ppm	0.0000 ppm	-0.0002 ppm	-0.0002 ppm	0.0001 ppm
Concentration per Run 3	0.0004 ppm	-0.0013 ppm	0.0000 ppm	0.0000 ppm	-0.0002 ppm	0.0003 ppm	0.0002 ppm
Recovery Percentage 1	5.428 %	-0.197 %	0.085 %	-0.199 %	-1.486 %	0.949 %	0.933 %
Concentration RSD	64.3 %	39.3 %	48.2 %	104.4 %	73.4 %	166.0 %	81.7 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0002 ppm	97.1712 %	100.5673 %	103.3413 %	97.3702 %	103.0542 %	99.5075 %
Concentration per Run 1	0.0002 ppm	97.8130 %	100.8780 %	103.3066 %	99.1948 %	103.0371 %	99.6534 %
Concentration per Run 2	0.0002 ppm	96.9980 %	100.4496 %	103.5148 %	96.7923 %	103.1204 %	99.2931 %
Concentration per Run 3	0.0001 ppm	96.7025 %	100.3743 %	103.2026 %	96.1234 %	103.0050 %	99.5759 %
Recovery Percentage 1	3.112 %						
Concentration RSD	47.4 %	0.6 %	0.3 %	0.2 %	1.7 %	0.1 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973898-1 WG1973898
 Analysis started at: 9/20/2024 11:51:58 AM
 Comments: <Comment>
 Rack: 1
 Vial: 17

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0003 ppm	0.0168 ppm	-0.0010 ppm	0.0041 ppm	0.0001 ppm	0.0000 ppm	0.0124 ppm
Concentration per Run 1	-0.0004 ppm	0.0150 ppm	-0.0018 ppm	0.0040 ppm	0.0001 ppm	0.0000 ppm	0.0126 ppm
Concentration per Run 2	-0.0001 ppm	0.0176 ppm	-0.0009 ppm	0.0043 ppm	0.0001 ppm	0.0000 ppm	0.0100 ppm
Concentration per Run 3	-0.0003 ppm	0.0178 ppm	-0.0003 ppm	0.0040 ppm	0.0001 ppm	0.0000 ppm	0.0145 ppm
Recovery Percentage 1	-3.737 %	16.797 %	-19.722 %	13.707 %	1.031 %	-0.010 %	12.378 %
Concentration RSD	62.3 %	9.3 %	76.3 %	3.4 %	39.5 %	1,338.2 %	18.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	-0.0001 ppm	-0.0007 ppm	0.0004 ppm	0.0052 ppm	-0.0016 ppm	-0.0031 ppm
Concentration per Run 1	0.0000 ppm	-0.0001 ppm	-0.0010 ppm	0.0004 ppm	0.0048 ppm	-0.0284 ppm	-0.0036 ppm
Concentration per Run 2	0.0000 ppm	-0.0002 ppm	-0.0003 ppm	0.0005 ppm	0.0058 ppm	0.0148 ppm	-0.0031 ppm
Concentration per Run 3	0.0000 ppm	-0.0001 ppm	-0.0007 ppm	0.0004 ppm	0.0050 ppm	0.0088 ppm	-0.0026 ppm
Recovery Percentage 1	0.443 %	-0.589 %	-6.644 %	4.300 %	10.378 %	-0.065 %	-30.888 %
Concentration RSD	73.7 %	35.9 %	45.7 %	11.3 %	9.8 %	1,445.6 %	16.3 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0033 ppm	-0.0001 ppm	0.0004 ppm	136.7501 ppm	-0.0009 ppm	-0.0002 ppm	0.0008 ppm
Concentration per Run 1	0.0029 ppm	-0.0001 ppm	0.0004 ppm	136.9443 ppm	-0.0013 ppm	-0.0001 ppm	0.0008 ppm
Concentration per Run 2	0.0034 ppm	-0.0001 ppm	0.0003 ppm	135.4608 ppm	-0.0006 ppm	-0.0004 ppm	0.0011 ppm
Concentration per Run 3	0.0035 ppm	-0.0002 ppm	0.0005 ppm	137.8452 ppm	-0.0009 ppm	0.0000 ppm	0.0006 ppm
Recovery Percentage 1	3.284 %	-1.144 %	0.724 %	6,837.505 %	-3.701 %	-1.857 %	1.655 %
Concentration RSD	9.7 %	44.7 %	23.5 %	0.9 %	35.0 %	99.3 %	28.4 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0004 ppm	0.0388 ppm	0.0003 ppm	0.0000 ppm	0.0002 ppm	-0.0022 ppm	-0.0002 ppm
Concentration per Run 1	-0.0017 ppm	0.0390 ppm	0.0003 ppm	0.0000 ppm	0.0002 ppm	-0.0018 ppm	0.0000 ppm
Concentration per Run 2	0.0009 ppm	0.0386 ppm	0.0004 ppm	0.0000 ppm	0.0003 ppm	-0.0022 ppm	-0.0004 ppm
Concentration per Run 3	-0.0003 ppm	0.0389 ppm	0.0002 ppm	0.0000 ppm	0.0002 ppm	-0.0027 ppm	-0.0001 ppm
Recovery Percentage 1	-3.702 %	7.768 %	0.659 %	0.026 %	2.374 %	-11.086 %	-1.628 %
Concentration RSD	363.7 %	0.5 %	31.2 %	1,168.2 %	39.7 %	21.2 %	113.0 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0005 ppm	93.7694 %	92.7743 %	94.7236 %	93.4880 %	85.6569 %	91.9273 %
Concentration per Run 1	0.0005 ppm	93.5690 %	92.6949 %	94.8214 %	94.5540 %	85.8641 %	91.9172 %
Concentration per Run 2	0.0005 ppm	93.8575 %	92.9545 %	94.6758 %	92.9377 %	85.3367 %	91.9615 %
Concentration per Run 3	0.0005 ppm	93.8817 %	92.6735 %	94.6737 %	92.9724 %	85.7700 %	91.9032 %
Recovery Percentage 1	9.985 %						
Concentration RSD	6.1 %	0.2 %	0.2 %	0.1 %	1.0 %	0.3 %	0.0 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973898-2 WG1973898
 Analysis started at: 9/20/2024 11:58:30 AM
 Comments: <Comment>
 Rack: 1
 Vial: 18

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0514 ppm	2.0286 ppm	0.1148 ppm	0.9156 ppm	2.0248 ppm	0.0514 ppm	10.0692 ppm
Concentration per Run 1	0.0512 ppm	2.0124 ppm	0.1153 ppm	0.9128 ppm	1.9922 ppm	0.0510 ppm	10.0234 ppm
Concentration per Run 2	0.0516 ppm	2.0385 ppm	0.1139 ppm	0.9136 ppm	2.0695 ppm	0.0517 ppm	10.0706 ppm
Concentration per Run 3	0.0515 ppm	2.0349 ppm	0.1152 ppm	0.9204 ppm	2.0127 ppm	0.0517 ppm	10.1136 ppm
Concentration RSD	0.3 %	0.7 %	0.7 %	0.5 %	2.0 %	0.8 %	0.4 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0531 ppm	0.5039 ppm	0.2039 ppm	0.2521 ppm	1.0360 ppm	10.1023 ppm	0.0014 ppm
Concentration per Run 1	0.0531 ppm	0.5021 ppm	0.2049 ppm	0.2500 ppm	1.0259 ppm	10.0489 ppm	0.0015 ppm
Concentration per Run 2	0.0531 ppm	0.5036 ppm	0.2032 ppm	0.2524 ppm	1.0422 ppm	10.1350 ppm	0.0019 ppm
Concentration per Run 3	0.0530 ppm	0.5061 ppm	0.2035 ppm	0.2539 ppm	1.0399 ppm	10.1230 ppm	0.0007 ppm
Concentration RSD	0.1 %	0.4 %	0.5 %	0.8 %	0.9 %	0.5 %	46.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	9.8718 ppm	0.5157 ppm	0.9789 ppm	9.9007 ppm	0.5037 ppm	0.5298 ppm	0.4907 ppm
Concentration per Run 1	9.8855 ppm	0.5119 ppm	0.9767 ppm	9.8009 ppm	0.5035 ppm	0.5282 ppm	0.4881 ppm
Concentration per Run 2	9.8710 ppm	0.5158 ppm	0.9765 ppm	9.9788 ppm	0.5023 ppm	0.5295 ppm	0.4903 ppm
Concentration per Run 3	9.8589 ppm	0.5193 ppm	0.9835 ppm	9.9225 ppm	0.5055 ppm	0.5317 ppm	0.4936 ppm
Concentration RSD	0.1 %	0.7 %	0.4 %	0.9 %	0.3 %	0.3 %	0.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1088 ppm	0.5423 ppm	0.9546 ppm	0.9487 ppm	1.0071 ppm	0.1149 ppm	0.5120 ppm
Concentration per Run 1	0.1094 ppm	0.5400 ppm	0.9543 ppm	0.9412 ppm	1.0062 ppm	0.1147 ppm	0.5127 ppm
Concentration per Run 2	0.1089 ppm	0.5416 ppm	0.9535 ppm	0.9548 ppm	1.0064 ppm	0.1148 ppm	0.5125 ppm
Concentration per Run 3	0.1080 ppm	0.5454 ppm	0.9559 ppm	0.9500 ppm	1.0088 ppm	0.1153 ppm	0.5108 ppm
Concentration RSD	0.6 %	0.5 %	0.1 %	0.7 %	0.1 %	0.3 %	0.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5112 ppm	94.5882 %	95.8884 %	97.7743 %	93.0190 %	91.6307 %	94.6107 %
Concentration per Run 1	0.5121 ppm	94.0690 %	95.2768 %	97.9335 %	93.6552 %	91.8499 %	94.2822 %
Concentration per Run 2	0.5107 ppm	95.5527 %	95.7050 %	97.8979 %	93.1779 %	91.3235 %	94.3884 %
Concentration per Run 3	0.5107 ppm	94.1430 %	96.6834 %	97.4914 %	92.2238 %	91.7188 %	95.1615 %
Concentration RSD	0.2 %	0.9 %	0.8 %	0.3 %	0.8 %	0.3 %	0.5 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2451391-25 WG1973498
 Analysis started at: 9/20/2024 12:04:43 PM
 Comments: <Comment>
 Rack: 1
 Vial: 13

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0581 ppm	0.0191 ppm	0.0167 ppm	0.1557 ppm	-0.0001 ppm	66.3975 ppm
Concentration per Run 1	-0.0003 ppm	0.0609 ppm	0.0183 ppm	0.0169 ppm	0.1496 ppm	-0.0001 ppm	63.6800 ppm
Concentration per Run 2	0.0001 ppm	0.0567 ppm	0.0190 ppm	0.0166 ppm	0.1619 ppm	-0.0001 ppm	69.1728 ppm
Concentration per Run 3	-0.0002 ppm	0.0566 ppm	0.0200 ppm	0.0167 ppm	0.1556 ppm	0.0000 ppm	66.3399 ppm
Concentration RSD	166.5 %	4.2 %	4.5 %	0.9 %	3.9 %	38.8 %	4.1 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0004 ppm	0.0000 ppm	-0.0001 ppm	0.0039 ppm	0.1929 ppm	0.5636 ppm	0.0016 ppm
Concentration per Run 1	-0.0004 ppm	0.0000 ppm	-0.0005 ppm	0.0039 ppm	0.1846 ppm	0.5530 ppm	0.0014 ppm
Concentration per Run 2	-0.0004 ppm	-0.0001 ppm	0.0001 ppm	0.0039 ppm	0.2012 ppm	0.5591 ppm	0.0020 ppm
Concentration per Run 3	-0.0004 ppm	0.0002 ppm	0.0002 ppm	0.0038 ppm	0.1928 ppm	0.5788 ppm	0.0013 ppm
Concentration RSD	2.1 %	307.1 %	448.6 %	1.3 %	4.3 %	2.4 %	23.1 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	9.7529 ppm	0.0613 ppm	0.0008 ppm	9.2601 ppm	-0.0004 ppm	0.0000 ppm	0.0024 ppm
Concentration per Run 1	9.8895 ppm	0.0588 ppm	0.0008 ppm	8.9032 ppm	-0.0005 ppm	0.0001 ppm	0.0032 ppm
Concentration per Run 2	9.7165 ppm	0.0639 ppm	0.0009 ppm	9.6324 ppm	0.0001 ppm	-0.0005 ppm	0.0022 ppm
Concentration per Run 3	9.6526 ppm	0.0611 ppm	0.0007 ppm	9.2447 ppm	-0.0006 ppm	0.0003 ppm	0.0017 ppm
Concentration RSD	1.3 %	4.2 %	7.9 %	3.9 %	110.9 %	3,873.7 %	32.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0005 ppm	7.7009 ppm	-0.0004 ppm	0.2958 ppm	0.0011 ppm	0.0005 ppm	-0.0001 ppm
Concentration per Run 1	0.0011 ppm	7.7146 ppm	-0.0004 ppm	0.2842 ppm	0.0012 ppm	-0.0009 ppm	-0.0002 ppm
Concentration per Run 2	0.0000 ppm	7.6899 ppm	-0.0002 ppm	0.3078 ppm	0.0010 ppm	0.0012 ppm	-0.0001 ppm
Concentration per Run 3	0.0005 ppm	7.6983 ppm	-0.0006 ppm	0.2956 ppm	0.0011 ppm	0.0012 ppm	0.0001 ppm
Concentration RSD	104.8 %	0.2 %	47.0 %	4.0 %	10.9 %	226.2 %	150.1 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0104 ppm	95.5331 %	97.3488 %	99.7193 %	95.7354 %	96.0365 %	96.5544 %
Concentration per Run 1	0.0103 ppm	98.1596 %	96.1727 %	99.7349 %	99.5045 %	95.7122 %	95.9238 %
Concentration per Run 2	0.0104 ppm	92.0920 %	97.7649 %	99.9438 %	92.2047 %	96.0214 %	96.5139 %
Concentration per Run 3	0.0105 ppm	96.3476 %	98.1087 %	99.4792 %	95.4969 %	96.3760 %	97.2255 %
Concentration RSD	0.9 %	3.3 %	1.1 %	0.2 %	3.8 %	0.3 %	0.7 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2451391-26 WG1973498
 Analysis started at: 9/20/2024 12:10:59 PM
 Comments: <Comment>
 Rack: 1
 Vial: 14

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	13.1580 ppm	0.0201 ppm	0.0282 ppm	0.2094 ppm	0.0008 ppm	160.2293 ppm
Concentration per Run 1	0.0000 ppm	12.8802 ppm	0.0209 ppm	0.0282 ppm	0.2050 ppm	0.0008 ppm	155.9798 ppm
Concentration per Run 2	0.0000 ppm	12.9618 ppm	0.0191 ppm	0.0283 ppm	0.2063 ppm	0.0008 ppm	157.8296 ppm
Concentration per Run 3	0.0000 ppm	13.6319 ppm	0.0202 ppm	0.0281 ppm	0.2170 ppm	0.0008 ppm	166.8785 ppm
Concentration RSD	302.5 %	3.1 %	4.4 %	0.3 %	3.2 %	2.0 %	3.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0007 ppm	0.0144 ppm	0.0175 ppm	0.0770 ppm	34.5693 ppm	2.5801 ppm	0.0270 ppm
Concentration per Run 1	-0.0007 ppm	0.0144 ppm	0.0175 ppm	0.0772 ppm	33.7951 ppm	2.5062 ppm	0.0267 ppm
Concentration per Run 2	-0.0006 ppm	0.0144 ppm	0.0175 ppm	0.0768 ppm	34.0365 ppm	2.5530 ppm	0.0264 ppm
Concentration per Run 3	-0.0007 ppm	0.0144 ppm	0.0174 ppm	0.0769 ppm	35.8761 ppm	2.6810 ppm	0.0278 ppm
Concentration RSD	2.8 %	0.1 %	0.1 %	0.3 %	3.3 %	3.5 %	2.6 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	39.7965 ppm	1.5636 ppm	0.0007 ppm	17.0969 ppm	0.0249 ppm	0.0134 ppm	0.0023 ppm
Concentration per Run 1	39.7199 ppm	1.5298 ppm	0.0006 ppm	16.7352 ppm	0.0252 ppm	0.0132 ppm	0.0026 ppm
Concentration per Run 2	39.8623 ppm	1.5416 ppm	0.0006 ppm	16.8036 ppm	0.0248 ppm	0.0141 ppm	0.0027 ppm
Concentration per Run 3	39.8073 ppm	1.6194 ppm	0.0008 ppm	17.7517 ppm	0.0248 ppm	0.0130 ppm	0.0016 ppm
Concentration RSD	0.2 %	3.1 %	18.8 %	3.3 %	1.0 %	4.1 %	27.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0003 ppm	19.4301 ppm	-0.0003 ppm	0.6303 ppm	0.1517 ppm	-0.0013 ppm	0.0270 ppm
Concentration per Run 1	0.0008 ppm	19.4569 ppm	-0.0001 ppm	0.6167 ppm	0.1516 ppm	-0.0023 ppm	0.0270 ppm
Concentration per Run 2	0.0003 ppm	19.4487 ppm	-0.0007 ppm	0.6207 ppm	0.1520 ppm	-0.0020 ppm	0.0271 ppm
Concentration per Run 3	-0.0001 ppm	19.3848 ppm	-0.0003 ppm	0.6534 ppm	0.1517 ppm	0.0003 ppm	0.0270 ppm
Concentration RSD	149.2 %	0.2 %	86.8 %	3.2 %	0.1 %	106.4 %	0.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0915 ppm	110.3869 %	109.4820 %	112.0010 %	99.1117 %	90.0053 %	96.2781 %
Concentration per Run 1	0.0913 ppm	112.2173 %	109.5295 %	111.9370 %	101.7341 %	89.8335 %	96.1563 %
Concentration per Run 2	0.0917 ppm	111.2827 %	109.4917 %	111.9035 %	100.3446 %	89.8700 %	96.6060 %
Concentration per Run 3	0.0914 ppm	107.6608 %	109.4247 %	112.1625 %	95.2565 %	90.3123 %	96.0721 %
Concentration RSD	0.2 %	2.2 %	0.0 %	0.1 %	3.4 %	0.3 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2448058-04 WG1973898
 Analysis started at: 9/20/2024 12:17:18 PM
 Comments: <Comment>
 Rack: 1
 Vial: 19

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0001 ppm	0.0121 ppm	-0.0020 ppm	0.0066 ppm	0.0736 ppm	0.0000 ppm	3.1759 ppm
Concentration per Run 1	0.0002 ppm	0.0159 ppm	-0.0016 ppm	0.0065 ppm	0.0735 ppm	0.0000 ppm	3.1725 ppm
Concentration per Run 2	0.0002 ppm	0.0066 ppm	-0.0008 ppm	0.0067 ppm	0.0738 ppm	0.0000 ppm	3.1982 ppm
Concentration per Run 3	0.0000 ppm	0.0140 ppm	-0.0036 ppm	0.0065 ppm	0.0734 ppm	0.0000 ppm	3.1571 ppm
Concentration RSD	94.3 %	40.5 %	70.3 %	1.4 %	0.3 %	191.1 %	0.7 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	-0.0005 ppm	0.0008 ppm	0.0010 ppm	0.1312 ppm	-0.0024 ppm
Concentration per Run 1	0.0001 ppm	-0.0001 ppm	-0.0004 ppm	0.0008 ppm	0.0010 ppm	0.1499 ppm	-0.0027 ppm
Concentration per Run 2	0.0001 ppm	0.0000 ppm	-0.0006 ppm	0.0007 ppm	0.0011 ppm	0.1288 ppm	-0.0027 ppm
Concentration per Run 3	0.0000 ppm	-0.0001 ppm	-0.0005 ppm	0.0007 ppm	0.0009 ppm	0.1149 ppm	-0.0018 ppm
Concentration RSD	102.2 %	104.2 %	19.7 %	10.4 %	11.0 %	13.5 %	22.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	1.2317 ppm	0.0125 ppm	0.0002 ppm	136.4515 ppm	0.0014 ppm	-0.0006 ppm	0.0015 ppm
Concentration per Run 1	1.2237 ppm	0.0124 ppm	0.0002 ppm	134.7178 ppm	0.0015 ppm	-0.0001 ppm	0.0019 ppm
Concentration per Run 2	1.2350 ppm	0.0123 ppm	0.0002 ppm	137.3182 ppm	0.0016 ppm	-0.0007 ppm	0.0010 ppm
Concentration per Run 3	1.2365 ppm	0.0126 ppm	0.0003 ppm	137.3185 ppm	0.0011 ppm	-0.0009 ppm	0.0016 ppm
Concentration RSD	0.6 %	1.3 %	22.4 %	1.1 %	16.6 %	68.0 %	30.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0010 ppm	0.2655 ppm	0.0008 ppm	0.0166 ppm	-0.0001 ppm	-0.0016 ppm	-0.0001 ppm
Concentration per Run 1	0.0007 ppm	0.2672 ppm	0.0012 ppm	0.0166 ppm	0.0000 ppm	-0.0011 ppm	0.0001 ppm
Concentration per Run 2	0.0008 ppm	0.2652 ppm	0.0004 ppm	0.0167 ppm	0.0000 ppm	-0.0018 ppm	-0.0002 ppm
Concentration per Run 3	0.0016 ppm	0.2642 ppm	0.0008 ppm	0.0166 ppm	-0.0002 ppm	-0.0019 ppm	-0.0001 ppm
Concentration RSD	48.2 %	0.6 %	45.6 %	0.5 %	252.2 %	27.8 %	189.0 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0048 ppm	93.7107 %	92.8488 %	95.1308 %	91.5621 %	85.5034 %	91.5912 %
Concentration per Run 1	0.0049 ppm	93.4835 %	92.7726 %	94.9740 %	91.9259 %	85.2512 %	91.4633 %
Concentration per Run 2	0.0049 ppm	93.4090 %	93.0405 %	95.1358 %	91.0874 %	85.4489 %	91.5947 %
Concentration per Run 3	0.0048 ppm	94.2396 %	92.7333 %	95.2824 %	91.6731 %	85.8101 %	91.7155 %
Concentration RSD	1.4 %	0.5 %	0.2 %	0.2 %	0.5 %	0.3 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973898-3 WG1973898
 Analysis started at: 9/20/2024 12:23:48 PM
 Comments: <Comment>
 Rack: 1
 Vial: 20

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0506 ppm	1.9449 ppm	0.1153 ppm	0.9108 ppm	1.9588 ppm	0.0498 ppm	12.6098 ppm
Concentration per Run 1	0.0506 ppm	1.9488 ppm	0.1164 ppm	0.9114 ppm	1.9666 ppm	0.0500 ppm	12.6363 ppm
Concentration per Run 2	0.0504 ppm	1.9354 ppm	0.1138 ppm	0.9092 ppm	1.9419 ppm	0.0496 ppm	12.5808 ppm
Concentration per Run 3	0.0509 ppm	1.9507 ppm	0.1157 ppm	0.9118 ppm	1.9680 ppm	0.0499 ppm	12.6122 ppm
Concentration RSD	0.5 %	0.4 %	1.2 %	0.2 %	0.7 %	0.4 %	0.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0509 ppm	0.4756 ppm	0.1959 ppm	0.2481 ppm	0.9931 ppm	9.9807 ppm	-0.0018 ppm
Concentration per Run 1	0.0509 ppm	0.4757 ppm	0.1958 ppm	0.2487 ppm	0.9938 ppm	9.8929 ppm	-0.0024 ppm
Concentration per Run 2	0.0510 ppm	0.4756 ppm	0.1958 ppm	0.2476 ppm	0.9912 ppm	9.9960 ppm	-0.0017 ppm
Concentration per Run 3	0.0507 ppm	0.4755 ppm	0.1960 ppm	0.2480 ppm	0.9944 ppm	10.0533 ppm	-0.0012 ppm
Concentration RSD	0.3 %	0.0 %	0.1 %	0.2 %	0.2 %	0.8 %	34.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	10.4913 ppm	0.5007 ppm	0.9477 ppm	137.0564 ppm	0.4750 ppm	0.4958 ppm	0.4799 ppm
Concentration per Run 1	10.4274 ppm	0.5035 ppm	0.9484 ppm	137.1415 ppm	0.4748 ppm	0.4951 ppm	0.4808 ppm
Concentration per Run 2	10.5467 ppm	0.4987 ppm	0.9467 ppm	138.0091 ppm	0.4749 ppm	0.4963 ppm	0.4777 ppm
Concentration per Run 3	10.4999 ppm	0.5000 ppm	0.9480 ppm	136.0187 ppm	0.4753 ppm	0.4961 ppm	0.4812 ppm
Concentration RSD	0.6 %	0.5 %	0.1 %	0.7 %	0.1 %	0.1 %	0.4 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1115 ppm	0.7862 ppm	0.9041 ppm	0.9302 ppm	0.9822 ppm	0.1037 ppm	0.4958 ppm
Concentration per Run 1	0.1104 ppm	0.7863 ppm	0.9045 ppm	0.9280 ppm	0.9810 ppm	0.1036 ppm	0.4943 ppm
Concentration per Run 2	0.1127 ppm	0.7838 ppm	0.9058 ppm	0.9294 ppm	0.9806 ppm	0.1040 ppm	0.4959 ppm
Concentration per Run 3	0.1114 ppm	0.7886 ppm	0.9019 ppm	0.9331 ppm	0.9851 ppm	0.1034 ppm	0.4972 ppm
Concentration RSD	1.1 %	0.3 %	0.2 %	0.3 %	0.3 %	0.3 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.4983 ppm	95.4030 %	93.3412 %	95.2493 %	93.9062 %	85.4539 %	91.7424 %
Concentration per Run 1	0.4977 ppm	94.8673 %	93.5864 %	95.1364 %	93.4080 %	85.2720 %	91.9734 %
Concentration per Run 2	0.5002 ppm	95.6826 %	92.9948 %	95.3579 %	94.1926 %	85.6187 %	91.6228 %
Concentration per Run 3	0.4972 ppm	95.6591 %	93.4423 %	95.2537 %	94.1179 %	85.4711 %	91.6309 %
Concentration RSD	0.3 %	0.5 %	0.3 %	0.1 %	0.5 %	0.2 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973898-4 WG1973898
 Analysis started at: 9/20/2024 12:30:10 PM
 Comments: <Comment>
 Rack: 1
 Vial: 21

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0002 ppm	0.0094 ppm	-0.0011 ppm	0.0072 ppm	0.0485 ppm	0.0000 ppm	3.0203 ppm
Concentration per Run 1	0.0004 ppm	0.0083 ppm	-0.0010 ppm	0.0072 ppm	0.0482 ppm	0.0000 ppm	3.0002 ppm
Concentration per Run 2	-0.0001 ppm	0.0085 ppm	-0.0010 ppm	0.0071 ppm	0.0487 ppm	0.0000 ppm	3.0283 ppm
Concentration per Run 3	0.0001 ppm	0.0114 ppm	-0.0014 ppm	0.0072 ppm	0.0485 ppm	0.0000 ppm	3.0324 ppm
Concentration RSD	153.4 %	18.6 %	21.6 %	0.5 %	0.6 %	286.2 %	0.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	-0.0001 ppm	-0.0004 ppm	0.0012 ppm	0.0004 ppm	0.1245 ppm	-0.0010 ppm
Concentration per Run 1	0.0001 ppm	-0.0002 ppm	-0.0004 ppm	0.0011 ppm	0.0012 ppm	0.1149 ppm	-0.0010 ppm
Concentration per Run 2	0.0000 ppm	-0.0001 ppm	-0.0003 ppm	0.0014 ppm	0.0003 ppm	0.1365 ppm	-0.0012 ppm
Concentration per Run 3	0.0001 ppm	0.0001 ppm	-0.0006 ppm	0.0009 ppm	-0.0001 ppm	0.1222 ppm	-0.0008 ppm
Concentration RSD	72.9 %	195.3 %	39.5 %	21.5 %	150.3 %	8.8 %	20.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	1.1957 ppm	0.0119 ppm	0.0004 ppm	129.1368 ppm	0.0003 ppm	-0.0002 ppm	0.0017 ppm
Concentration per Run 1	1.1916 ppm	0.0117 ppm	0.0004 ppm	130.5836 ppm	0.0003 ppm	0.0000 ppm	0.0021 ppm
Concentration per Run 2	1.2020 ppm	0.0120 ppm	0.0004 ppm	129.9282 ppm	0.0004 ppm	-0.0004 ppm	0.0013 ppm
Concentration per Run 3	1.1935 ppm	0.0119 ppm	0.0005 ppm	126.8985 ppm	0.0002 ppm	-0.0001 ppm	0.0017 ppm
Concentration RSD	0.5 %	1.4 %	9.1 %	1.5 %	30.2 %	112.3 %	23.5 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0001 ppm	0.2568 ppm	0.0007 ppm	0.0153 ppm	-0.0001 ppm	-0.0018 ppm	-0.0002 ppm
Concentration per Run 1	0.0012 ppm	0.2562 ppm	0.0006 ppm	0.0153 ppm	-0.0001 ppm	-0.0018 ppm	-0.0002 ppm
Concentration per Run 2	-0.0013 ppm	0.2567 ppm	0.0005 ppm	0.0154 ppm	0.0001 ppm	-0.0015 ppm	-0.0004 ppm
Concentration per Run 3	-0.0002 ppm	0.2574 ppm	0.0010 ppm	0.0154 ppm	-0.0003 ppm	-0.0020 ppm	0.0000 ppm
Concentration RSD	1,056.7 %	0.2 %	40.4 %	0.4 %	157.0 %	13.8 %	106.7 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0049 ppm	94.8233 %	93.3907 %	95.1769 %	93.4404 %	85.6676 %	92.5164 %
Concentration per Run 1	0.0050 ppm	95.0967 %	93.6679 %	95.2354 %	94.3755 %	85.5832 %	92.5628 %
Concentration per Run 2	0.0049 ppm	94.5879 %	93.1157 %	95.3681 %	92.6743 %	86.0518 %	92.4038 %
Concentration per Run 3	0.0047 ppm	94.7854 %	93.3885 %	94.9270 %	93.2714 %	85.3677 %	92.5826 %
Concentration RSD	3.3 %	0.3 %	0.3 %	0.2 %	0.9 %	0.4 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973898-5 WG1973898
 Analysis started at: 9/20/2024 12:36:40 PM
 Comments: <Comment>
 Rack: 1
 Vial: 22

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0515 ppm	2.1077 ppm	0.1231 ppm	1.0092 ppm	2.1505 ppm	0.0531 ppm	13.7419 ppm
Concentration per Run 1	0.0512 ppm	2.1019 ppm	0.1234 ppm	1.0088 ppm	2.1742 ppm	0.0530 ppm	13.7169 ppm
Concentration per Run 2	0.0516 ppm	2.1043 ppm	0.1233 ppm	1.0108 ppm	2.1002 ppm	0.0530 ppm	13.6947 ppm
Concentration per Run 3	0.0517 ppm	2.1170 ppm	0.1227 ppm	1.0081 ppm	2.1770 ppm	0.0532 ppm	13.8142 ppm
Concentration RSD	0.5 %	0.4 %	0.3 %	0.1 %	2.0 %	0.3 %	0.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0547 ppm	0.5059 ppm	0.2074 ppm	0.2672 ppm	1.0597 ppm	11.1589 ppm	-0.0016 ppm
Concentration per Run 1	0.0547 ppm	0.5056 ppm	0.2066 ppm	0.2660 ppm	1.0574 ppm	11.1609 ppm	-0.0022 ppm
Concentration per Run 2	0.0548 ppm	0.5065 ppm	0.2078 ppm	0.2682 ppm	1.0605 ppm	11.1176 ppm	-0.0014 ppm
Concentration per Run 3	0.0546 ppm	0.5057 ppm	0.2077 ppm	0.2672 ppm	1.0611 ppm	11.1983 ppm	-0.0013 ppm
Concentration RSD	0.2 %	0.1 %	0.3 %	0.4 %	0.2 %	0.4 %	28.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	11.2918 ppm	0.5303 ppm	1.0495 ppm	146.6602 ppm	0.5067 ppm	0.5255 ppm	0.5080 ppm
Concentration per Run 1	11.3058 ppm	0.5292 ppm	1.0488 ppm	150.6608 ppm	0.5058 ppm	0.5248 ppm	0.5068 ppm
Concentration per Run 2	11.2925 ppm	0.5287 ppm	1.0514 ppm	145.5035 ppm	0.5081 ppm	0.5262 ppm	0.5086 ppm
Concentration per Run 3	11.2773 ppm	0.5330 ppm	1.0483 ppm	143.8161 ppm	0.5062 ppm	0.5255 ppm	0.5085 ppm
Concentration RSD	0.1 %	0.4 %	0.2 %	2.4 %	0.2 %	0.1 %	0.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1199 ppm	1.3065 ppm	1.0113 ppm	1.0300 ppm	1.0819 ppm	0.1106 ppm	0.5263 ppm
Concentration per Run 1	0.1210 ppm	1.3036 ppm	1.0103 ppm	1.0289 ppm	1.0778 ppm	0.1110 ppm	0.5255 ppm
Concentration per Run 2	0.1195 ppm	1.3099 ppm	1.0119 ppm	1.0293 ppm	1.0838 ppm	0.1104 ppm	0.5273 ppm
Concentration per Run 3	0.1190 ppm	1.3061 ppm	1.0117 ppm	1.0317 ppm	1.0841 ppm	0.1105 ppm	0.5263 ppm
Concentration RSD	0.9 %	0.2 %	0.1 %	0.1 %	0.3 %	0.3 %	0.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5222 ppm	96.9349 %	93.5160 %	94.5050 %	95.4751 %	83.9732 %	91.7007 %
Concentration per Run 1	0.5225 ppm	96.9331 %	93.2473 %	94.4990 %	95.6516 %	83.8272 %	91.6688 %
Concentration per Run 2	0.5216 ppm	97.8914 %	93.4671 %	94.3940 %	96.3664 %	84.0254 %	91.5777 %
Concentration per Run 3	0.5224 ppm	95.9800 %	93.8337 %	94.6221 %	94.4075 %	84.0669 %	91.8558 %
Concentration RSD	0.1 %	1.0 %	0.3 %	0.1 %	1.0 %	0.2 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973898-6D5 WG1973898
 Analysis started at: 9/20/2024 12:43:03 PM
 Comments: <Comment>
 Rack: 1
 Vial: 23

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0056 ppm	-0.0004 ppm	0.0021 ppm	0.0146 ppm	0.0000 ppm	0.6319 ppm
Concentration per Run 1	0.0000 ppm	0.0051 ppm	0.0002 ppm	0.0022 ppm	0.0144 ppm	0.0000 ppm	0.6204 ppm
Concentration per Run 2	0.0001 ppm	0.0066 ppm	-0.0006 ppm	0.0022 ppm	0.0147 ppm	0.0000 ppm	0.6375 ppm
Concentration per Run 3	0.0000 ppm	0.0052 ppm	-0.0009 ppm	0.0020 ppm	0.0148 ppm	0.0000 ppm	0.6378 ppm
Concentration RSD	306.7 %	14.6 %	134.7 %	6.3 %	1.3 %	166.4 %	1.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	-0.0004 ppm	0.0003 ppm	0.0001 ppm	0.0059 ppm	-0.0003 ppm
Concentration per Run 1	0.0000 ppm	0.0000 ppm	-0.0006 ppm	0.0003 ppm	0.0003 ppm	0.0066 ppm	0.0004 ppm
Concentration per Run 2	0.0000 ppm	0.0000 ppm	-0.0002 ppm	0.0003 ppm	0.0003 ppm	-0.0002 ppm	-0.0002 ppm
Concentration per Run 3	0.0000 ppm	-0.0001 ppm	-0.0004 ppm	0.0002 ppm	-0.0001 ppm	0.0114 ppm	-0.0012 ppm
Concentration RSD	685.5 %	1,212.9 %	41.4 %	30.7 %	154.5 %	97.8 %	243.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.2632 ppm	0.0024 ppm	0.0004 ppm	27.5592 ppm	0.0001 ppm	0.0001 ppm	0.0000 ppm
Concentration per Run 1	0.2627 ppm	0.0024 ppm	0.0003 ppm	27.0193 ppm	0.0000 ppm	-0.0004 ppm	0.0003 ppm
Concentration per Run 2	0.2648 ppm	0.0025 ppm	0.0004 ppm	27.6713 ppm	0.0002 ppm	0.0006 ppm	0.0003 ppm
Concentration per Run 3	0.2620 ppm	0.0024 ppm	0.0004 ppm	27.9871 ppm	0.0001 ppm	0.0001 ppm	-0.0007 ppm
Concentration RSD	0.6 %	2.6 %	4.5 %	1.8 %	94.6 %	480.1 %	3,120.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0004 ppm	0.0567 ppm	0.0001 ppm	0.0033 ppm	0.0001 ppm	-0.0009 ppm	-0.0001 ppm
Concentration per Run 1	0.0003 ppm	0.0569 ppm	0.0001 ppm	0.0032 ppm	0.0000 ppm	-0.0008 ppm	-0.0001 ppm
Concentration per Run 2	-0.0010 ppm	0.0569 ppm	0.0000 ppm	0.0033 ppm	-0.0001 ppm	-0.0015 ppm	-0.0003 ppm
Concentration per Run 3	0.0018 ppm	0.0563 ppm	0.0002 ppm	0.0033 ppm	0.0003 ppm	-0.0004 ppm	0.0000 ppm
Concentration RSD	394.9 %	0.6 %	72.4 %	1.6 %	346.0 %	64.1 %	120.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0015 ppm	100.9296 %	100.7793 %	101.3700 %	101.2945 %	98.8692 %	99.5969 %
Concentration per Run 1	0.0014 ppm	100.6791 %	100.8518 %	101.2573 %	102.6627 %	99.0143 %	99.7888 %
Concentration per Run 2	0.0015 ppm	100.9931 %	100.9968 %	101.6884 %	101.1146 %	99.0905 %	99.5829 %
Concentration per Run 3	0.0015 ppm	101.1165 %	100.4892 %	101.1643 %	100.1063 %	98.5030 %	99.4189 %
Concentration RSD	3.2 %	0.2 %	0.3 %	0.3 %	1.3 %	0.3 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCV
 Analysis started at: 9/20/2024 12:49:27 PM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5072 ppm	0.4996 ppm	0.4929 ppm	0.5047 ppm	0.4938 ppm	0.4983 ppm	0.4971 ppm
Concentration per Run 1	0.5059 ppm	0.4901 ppm	0.4946 ppm	0.5049 ppm	0.4833 ppm	0.4893 ppm	0.4868 ppm
Concentration per Run 2	0.5075 ppm	0.5035 ppm	0.4919 ppm	0.5052 ppm	0.4973 ppm	0.5018 ppm	0.5005 ppm
Concentration per Run 3	0.5081 ppm	0.5053 ppm	0.4921 ppm	0.5041 ppm	0.5008 ppm	0.5037 ppm	0.5041 ppm
Recovery Percentage 1	101.437 %	99.930 %	98.572 %	100.950 %	98.758 %	99.655 %	99.423 %
Concentration RSD	0.2 %	1.7 %	0.3 %	0.1 %	1.9 %	1.6 %	1.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.4920 ppm	0.5049 ppm	0.4897 ppm	0.4838 ppm	0.5259 ppm	5.1736 ppm	0.4961 ppm
Concentration per Run 1	0.4924 ppm	0.5057 ppm	0.4918 ppm	0.4826 ppm	0.5153 ppm	5.0830 ppm	0.4839 ppm
Concentration per Run 2	0.4910 ppm	0.5043 ppm	0.4874 ppm	0.4827 ppm	0.5315 ppm	5.1991 ppm	0.4985 ppm
Concentration per Run 3	0.4927 ppm	0.5047 ppm	0.4898 ppm	0.4861 ppm	0.5308 ppm	5.2389 ppm	0.5059 ppm
Recovery Percentage 1	98.402 %	100.985 %	97.936 %	96.757 %	105.170 %	103.473 %	99.222 %
Concentration RSD	0.2 %	0.1 %	0.5 %	0.4 %	1.7 %	1.6 %	2.3 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5022 ppm	0.4850 ppm	0.4873 ppm	9.8553 ppm	0.5034 ppm	0.5085 ppm	0.5095 ppm
Concentration per Run 1	0.5018 ppm	0.4780 ppm	0.4879 ppm	9.6288 ppm	0.5033 ppm	0.5095 ppm	0.5123 ppm
Concentration per Run 2	0.5030 ppm	0.4880 ppm	0.4865 ppm	9.9104 ppm	0.5032 ppm	0.5070 ppm	0.5085 ppm
Concentration per Run 3	0.5020 ppm	0.4892 ppm	0.4875 ppm	10.0268 ppm	0.5037 ppm	0.5090 ppm	0.5078 ppm
Recovery Percentage 1	100.448 %	97.009 %	97.458 %	98.553 %	100.677 %	101.704 %	101.905 %
Concentration RSD	0.1 %	1.3 %	0.2 %	2.1 %	0.1 %	0.3 %	0.5 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.5107 ppm	5.5719 ppm	0.4781 ppm	0.4673 ppm	0.4961 ppm	0.5200 ppm	0.4876 ppm
Concentration per Run 1	0.5112 ppm	5.5837 ppm	0.4773 ppm	0.4575 ppm	0.4976 ppm	0.5193 ppm	0.4881 ppm
Concentration per Run 2	0.5103 ppm	5.5658 ppm	0.4778 ppm	0.4705 ppm	0.4926 ppm	0.5202 ppm	0.4854 ppm
Concentration per Run 3	0.5106 ppm	5.5661 ppm	0.4790 ppm	0.4741 ppm	0.4980 ppm	0.5205 ppm	0.4893 ppm
Recovery Percentage 1	102.136 %	106.131 %	95.610 %	93.470 %	99.215 %	104.001 %	97.517 %
Concentration RSD	0.1 %	0.2 %	0.2 %	1.9 %	0.6 %	0.1 %	0.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5274 ppm	101.1741 %	101.2189 %	102.4807 %	101.3304 %	100.9898 %	100.3575 %
Concentration per Run 1	0.5278 ppm	100.8656 %	101.2028 %	102.4752 %	102.7950 %	101.0326 %	100.2625 %
Concentration per Run 2	0.5257 ppm	100.5278 %	100.9455 %	102.5326 %	100.2799 %	100.8895 %	100.6869 %
Concentration per Run 3	0.5288 ppm	102.1290 %	101.5084 %	102.4342 %	100.9164 %	101.0472 %	100.1231 %
Recovery Percentage 1	105.483 %						
Concentration RSD	0.3 %	0.8 %	0.3 %	0.0 %	1.3 %	0.1 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCB
 Analysis started at: 9/20/2024 12:55:30 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0001 ppm	0.0061 ppm	-0.0001 ppm	0.0006 ppm	0.0000 ppm	0.0000 ppm	-0.0004 ppm
Concentration per Run 1	0.0001 ppm	0.0068 ppm	0.0000 ppm	0.0007 ppm	0.0001 ppm	0.0000 ppm	-0.0012 ppm
Concentration per Run 2	0.0003 ppm	0.0084 ppm	0.0000 ppm	0.0006 ppm	0.0001 ppm	0.0000 ppm	0.0001 ppm
Concentration per Run 3	-0.0002 ppm	0.0031 ppm	-0.0003 ppm	0.0004 ppm	-0.0001 ppm	0.0000 ppm	-0.0002 ppm
Recovery Percentage 1	1.151 %	6.097 %	-1.822 %	1.884 %	0.467 %	-0.235 %	-0.422 %
Concentration RSD	330.1 %	44.8 %	217.3 %	29.4 %	210.9 %	68.0 %	154.1 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0001 ppm	0.0002 ppm	0.0010 ppm	-0.0357 ppm	0.0002 ppm
Concentration per Run 1	0.0000 ppm	0.0001 ppm	0.0001 ppm	0.0002 ppm	0.0004 ppm	-0.0491 ppm	-0.0003 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	0.0003 ppm	0.0003 ppm	0.0012 ppm	-0.0312 ppm	0.0004 ppm
Concentration per Run 3	0.0000 ppm	-0.0002 ppm	0.0000 ppm	0.0002 ppm	0.0016 ppm	-0.0268 ppm	0.0006 ppm
Recovery Percentage 1	-0.139 %	0.014 %	1.250 %	2.119 %	2.084 %	-1.428 %	2.431 %
Concentration RSD	256.3 %	5,352.8 %	133.7 %	37.6 %	60.6 %	33.0 %	194.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0001 ppm	0.0001 ppm	0.0003 ppm	0.0140 ppm	-0.0003 ppm	0.0002 ppm	0.0003 ppm
Concentration per Run 1	0.0001 ppm	0.0001 ppm	0.0003 ppm	0.0145 ppm	-0.0002 ppm	0.0008 ppm	-0.0005 ppm
Concentration per Run 2	-0.0008 ppm	0.0001 ppm	0.0004 ppm	0.0123 ppm	-0.0002 ppm	-0.0001 ppm	0.0013 ppm
Concentration per Run 3	0.0004 ppm	0.0001 ppm	0.0002 ppm	0.0152 ppm	-0.0005 ppm	0.0000 ppm	0.0001 ppm
Recovery Percentage 1	-0.105 %	1.120 %	0.559 %	0.699 %	-1.186 %	2.240 %	0.576 %
Concentration RSD	604.8 %	28.8 %	40.4 %	10.8 %	66.8 %	214.8 %	306.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0007 ppm	-0.0014 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	-0.0006 ppm	-0.0002 ppm
Concentration per Run 1	0.0017 ppm	-0.0012 ppm	0.0002 ppm	0.0000 ppm	0.0003 ppm	-0.0008 ppm	0.0000 ppm
Concentration per Run 2	0.0005 ppm	-0.0015 ppm	0.0001 ppm	0.0000 ppm	-0.0002 ppm	-0.0008 ppm	-0.0003 ppm
Concentration per Run 3	-0.0002 ppm	-0.0014 ppm	-0.0002 ppm	0.0000 ppm	0.0000 ppm	-0.0003 ppm	-0.0003 ppm
Recovery Percentage 1	6.732 %	-0.279 %	0.078 %	0.060 %	0.302 %	-3.012 %	-1.742 %
Concentration RSD	144.0 %	9.9 %	586.4 %	608.6 %	773.3 %	46.7 %	96.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0003 ppm	100.0612 %	100.0723 %	102.6780 %	99.8975 %	102.7385 %	98.6594 %
Concentration per Run 1	0.0002 ppm	99.6694 %	100.0827 %	101.2419 %	101.2484 %	101.2355 %	98.6958 %
Concentration per Run 2	0.0004 ppm	100.2129 %	100.0689 %	103.4004 %	98.9406 %	103.5721 %	99.2886 %
Concentration per Run 3	0.0002 ppm	100.3013 %	100.0652 %	103.3917 %	99.5034 %	103.4078 %	97.9938 %
Recovery Percentage 1	5.048 %						
Concentration RSD	35.2 %	0.3 %	0.0 %	1.2 %	1.2 %	1.3 %	0.7 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973830-1 WG1973830
 Analysis started at: 9/20/2024 1:04:24 PM
 Comments: <Comment>
 Rack: 1
 Vial: 24

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0047 ppm	-0.0005 ppm	0.0003 ppm	0.0000 ppm	0.0000 ppm	0.0094 ppm
Concentration per Run 1	-0.0001 ppm	0.0029 ppm	-0.0005 ppm	0.0004 ppm	0.0000 ppm	0.0000 ppm	0.0102 ppm
Concentration per Run 2	-0.0001 ppm	0.0049 ppm	-0.0009 ppm	0.0002 ppm	0.0000 ppm	0.0000 ppm	0.0104 ppm
Concentration per Run 3	0.0000 ppm	0.0062 ppm	-0.0003 ppm	0.0004 ppm	0.0000 ppm	0.0000 ppm	0.0077 ppm
Recovery Percentage 1	-0.728 %	4.667 %	-10.596 %	1.049 %	-0.132 %	-0.481 %	9.420 %
Concentration RSD	46.0 %	34.9 %	57.0 %	30.2 %	287.7 %	51.5 %	15.9 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	-0.0007 ppm	0.0003 ppm	-0.0003 ppm	-0.0097 ppm	-0.0009 ppm
Concentration per Run 1	0.0000 ppm	0.0002 ppm	-0.0008 ppm	0.0004 ppm	-0.0005 ppm	-0.0204 ppm	-0.0015 ppm
Concentration per Run 2	0.0000 ppm	-0.0001 ppm	-0.0007 ppm	0.0003 ppm	0.0001 ppm	-0.0020 ppm	-0.0006 ppm
Concentration per Run 3	0.0000 ppm	0.0001 ppm	-0.0006 ppm	0.0003 ppm	-0.0005 ppm	-0.0067 ppm	-0.0007 ppm
Recovery Percentage 1	0.315 %	0.397 %	-7.021 %	3.415 %	-0.592 %	-0.389 %	-9.408 %
Concentration RSD	152.1 %	184.2 %	14.4 %	13.2 %	109.7 %	98.3 %	55.0 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0031 ppm	0.0001 ppm	0.0002 ppm	0.0074 ppm	-0.0002 ppm	0.0006 ppm	0.0000 ppm
Concentration per Run 1	0.0030 ppm	-0.0001 ppm	0.0004 ppm	0.0075 ppm	-0.0001 ppm	0.0006 ppm	-0.0002 ppm
Concentration per Run 2	0.0042 ppm	0.0002 ppm	0.0002 ppm	0.0029 ppm	-0.0003 ppm	0.0005 ppm	0.0007 ppm
Concentration per Run 3	0.0019 ppm	0.0001 ppm	0.0000 ppm	0.0117 ppm	-0.0001 ppm	0.0006 ppm	-0.0005 ppm
Recovery Percentage 1	3.051 %	0.513 %	0.441 %	0.368 %	-0.606 %	5.876 %	0.006 %
Concentration RSD	37.0 %	247.7 %	95.4 %	59.4 %	78.9 %	14.7 %	20,131.7 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0014 ppm	0.0000 ppm	0.0001 ppm	0.0001 ppm	0.0001 ppm	-0.0003 ppm	0.0000 ppm
Concentration per Run 1	0.0016 ppm	0.0007 ppm	0.0004 ppm	0.0001 ppm	0.0002 ppm	0.0003 ppm	0.0003 ppm
Concentration per Run 2	0.0016 ppm	-0.0003 ppm	-0.0002 ppm	0.0001 ppm	0.0000 ppm	-0.0007 ppm	-0.0001 ppm
Concentration per Run 3	0.0011 ppm	-0.0003 ppm	0.0001 ppm	0.0002 ppm	0.0001 ppm	-0.0004 ppm	-0.0001 ppm
Recovery Percentage 1	14.264 %	0.006 %	0.202 %	1.099 %	0.743 %	-1.259 %	0.254 %
Concentration RSD	22.2 %	2,005.6 %	291.7 %	34.4 %	122.4 %	186.6 %	793.5 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0011 ppm	100.2749 %	101.1769 %	101.6029 %	100.5935 %	103.7360 %	101.1117 %
Concentration per Run 1	0.0011 ppm	100.5902 %	101.0851 %	101.4127 %	101.0067 %	103.8405 %	101.2580 %
Concentration per Run 2	0.0012 ppm	100.2917 %	101.3166 %	101.8477 %	100.4896 %	103.6066 %	101.2331 %
Concentration per Run 3	0.0012 ppm	99.9428 %	101.1289 %	101.5483 %	100.2841 %	103.7609 %	100.8441 %
Recovery Percentage 1	22.884 %						
Concentration RSD	1.5 %	0.3 %	0.1 %	0.2 %	0.4 %	0.1 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973830-2 WG1973830
 Analysis started at: 9/20/2024 1:10:50 PM
 Comments: <Comment>
 Rack: 1
 Vial: 25

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0524 ppm	2.0044 ppm	0.1184 ppm	0.9808 ppm	1.9772 ppm	0.0496 ppm	9.8957 ppm
Concentration per Run 1	0.0526 ppm	1.9605 ppm	0.1181 ppm	0.9797 ppm	1.9371 ppm	0.0488 ppm	9.7130 ppm
Concentration per Run 2	0.0523 ppm	2.0140 ppm	0.1185 ppm	0.9823 ppm	1.9931 ppm	0.0497 ppm	9.9534 ppm
Concentration per Run 3	0.0523 ppm	2.0386 ppm	0.1185 ppm	0.9803 ppm	2.0015 ppm	0.0503 ppm	10.0206 ppm
Concentration RSD	0.3 %	2.0 %	0.2 %	0.1 %	1.8 %	1.6 %	1.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0531 ppm	0.5026 ppm	0.1977 ppm	0.2543 ppm	1.0018 ppm	10.5417 ppm	-0.0010 ppm
Concentration per Run 1	0.0531 ppm	0.5027 ppm	0.1974 ppm	0.2549 ppm	0.9809 ppm	10.3838 ppm	-0.0010 ppm
Concentration per Run 2	0.0531 ppm	0.5027 ppm	0.1980 ppm	0.2543 ppm	1.0049 ppm	10.5687 ppm	-0.0012 ppm
Concentration per Run 3	0.0532 ppm	0.5025 ppm	0.1977 ppm	0.2538 ppm	1.0197 ppm	10.6725 ppm	-0.0008 ppm
Concentration RSD	0.0 %	0.0 %	0.2 %	0.2 %	2.0 %	1.4 %	21.0 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	10.1131 ppm	0.4987 ppm	0.9866 ppm	10.3043 ppm	0.5076 ppm	0.5353 ppm	0.5158 ppm
Concentration per Run 1	10.1054 ppm	0.4892 ppm	0.9856 ppm	10.1139 ppm	0.5067 ppm	0.5351 ppm	0.5155 ppm
Concentration per Run 2	10.1377 ppm	0.5021 ppm	0.9864 ppm	10.3235 ppm	0.5081 ppm	0.5350 ppm	0.5159 ppm
Concentration per Run 3	10.0963 ppm	0.5049 ppm	0.9876 ppm	10.4755 ppm	0.5082 ppm	0.5357 ppm	0.5161 ppm
Concentration RSD	0.2 %	1.7 %	0.1 %	1.8 %	0.2 %	0.1 %	0.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1196 ppm	1.1034 ppm	0.9797 ppm	0.9413 ppm	1.0000 ppm	0.1206 ppm	0.4943 ppm
Concentration per Run 1	0.1183 ppm	1.1030 ppm	0.9804 ppm	0.9242 ppm	0.9952 ppm	0.1198 ppm	0.4929 ppm
Concentration per Run 2	0.1204 ppm	1.1037 ppm	0.9802 ppm	0.9438 ppm	1.0032 ppm	0.1206 ppm	0.4956 ppm
Concentration per Run 3	0.1202 ppm	1.1034 ppm	0.9784 ppm	0.9559 ppm	1.0015 ppm	0.1215 ppm	0.4946 ppm
Concentration RSD	1.0 %	0.0 %	0.1 %	1.7 %	0.4 %	0.7 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.4990 ppm	101.2216 %	100.3735 %	101.0111 %	102.3284 %	98.1699 %	100.2972 %
Concentration per Run 1	0.4990 ppm	101.6783 %	100.1190 %	101.0507 %	104.5353 %	98.4816 %	100.3070 %
Concentration per Run 2	0.4985 ppm	100.3446 %	100.3950 %	101.0141 %	101.4190 %	98.1065 %	100.1681 %
Concentration per Run 3	0.4994 ppm	101.6420 %	100.6065 %	100.9686 %	101.0309 %	97.9217 %	100.4164 %
Concentration RSD	0.1 %	0.8 %	0.2 %	0.0 %	1.9 %	0.3 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2452763-02 WG1973830
 Analysis started at: 9/20/2024 1:17:00 PM
 Comments: <Comment>
 Rack: 1
 Vial: 31

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0031 ppm	0.3690 ppm	0.0016 ppm	0.7685 ppm	0.0432 ppm	-0.0001 ppm	77.1059 ppm
Concentration per Run 1	0.0031 ppm	0.3653 ppm	0.0022 ppm	0.7678 ppm	0.0425 ppm	0.0000 ppm	76.3275 ppm
Concentration per Run 2	0.0032 ppm	0.3690 ppm	0.0017 ppm	0.7700 ppm	0.0435 ppm	-0.0001 ppm	77.3283 ppm
Concentration per Run 3	0.0029 ppm	0.3725 ppm	0.0010 ppm	0.7678 ppm	0.0436 ppm	-0.0001 ppm	77.6619 ppm
Concentration RSD	5.5 %	1.0 %	35.4 %	0.2 %	1.3 %	42.3 %	0.9 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0005 ppm	0.0003 ppm	0.0003 ppm	0.0850 ppm	0.6048 ppm	18.8238 ppm	-0.0003 ppm
Concentration per Run 1	-0.0005 ppm	0.0002 ppm	0.0002 ppm	0.0850 ppm	0.5945 ppm	18.6793 ppm	-0.0008 ppm
Concentration per Run 2	-0.0005 ppm	0.0002 ppm	0.0007 ppm	0.0848 ppm	0.6063 ppm	18.7848 ppm	-0.0003 ppm
Concentration per Run 3	-0.0005 ppm	0.0004 ppm	0.0001 ppm	0.0853 ppm	0.6138 ppm	19.0073 ppm	0.0002 ppm
Concentration RSD	2.6 %	58.4 %	101.8 %	0.3 %	1.6 %	0.9 %	165.1 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	17.1142 ppm	0.0303 ppm	0.0024 ppm	338.2765 ppm	0.0017 ppm	0.0038 ppm	0.0017 ppm
Concentration per Run 1	17.1460 ppm	0.0300 ppm	0.0025 ppm	343.5237 ppm	0.0016 ppm	0.0034 ppm	0.0017 ppm
Concentration per Run 2	17.0566 ppm	0.0303 ppm	0.0024 ppm	339.7293 ppm	0.0019 ppm	0.0040 ppm	0.0017 ppm
Concentration per Run 3	17.1400 ppm	0.0305 ppm	0.0022 ppm	331.5764 ppm	0.0016 ppm	0.0038 ppm	0.0016 ppm
Concentration RSD	0.3 %	0.8 %	5.3 %	1.8 %	9.6 %	8.0 %	3.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0001 ppm	1.1456 ppm	0.0007 ppm	0.6292 ppm	0.0015 ppm	-0.0011 ppm	0.0000 ppm
Concentration per Run 1	-0.0006 ppm	1.1432 ppm	0.0009 ppm	0.6204 ppm	0.0018 ppm	-0.0005 ppm	-0.0001 ppm
Concentration per Run 2	-0.0007 ppm	1.1466 ppm	0.0004 ppm	0.6315 ppm	0.0015 ppm	-0.0019 ppm	0.0000 ppm
Concentration per Run 3	0.0010 ppm	1.1471 ppm	0.0007 ppm	0.6357 ppm	0.0013 ppm	-0.0010 ppm	0.0000 ppm
Concentration RSD	907.7 %	0.2 %	39.2 %	1.3 %	16.5 %	64.3 %	161.0 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0865 ppm	96.8649 %	90.8549 %	90.8501 %	98.8179 %	79.5423 %	90.6856 %
Concentration per Run 1	0.0867 ppm	96.6596 %	90.9855 %	90.9208 %	100.2163 %	79.5955 %	90.6133 %
Concentration per Run 2	0.0865 ppm	96.8502 %	91.1100 %	90.9384 %	98.4212 %	79.6278 %	90.6153 %
Concentration per Run 3	0.0864 ppm	97.0848 %	90.4690 %	90.6912 %	97.8163 %	79.4036 %	90.8284 %
Concentration RSD	0.2 %	0.2 %	0.4 %	0.2 %	1.3 %	0.2 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2452825-01 WG1973830
 Analysis started at: 9/20/2024 1:23:25 PM
 Comments: <Comment>
 Rack: 1
 Vial: 32

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0006 ppm	0.1554 ppm	0.0003 ppm	0.0313 ppm	0.1316 ppm	0.0000 ppm	32.8941 ppm
Concentration per Run 1	-0.0008 ppm	0.1556 ppm	-0.0004 ppm	0.0316 ppm	0.1301 ppm	0.0000 ppm	32.5322 ppm
Concentration per Run 2	-0.0005 ppm	0.1534 ppm	0.0010 ppm	0.0314 ppm	0.1325 ppm	0.0000 ppm	32.9751 ppm
Concentration per Run 3	-0.0005 ppm	0.1572 ppm	0.0004 ppm	0.0310 ppm	0.1323 ppm	-0.0001 ppm	33.1749 ppm
Concentration RSD	23.5 %	1.2 %	200.8 %	1.0 %	1.0 %	112.8 %	1.0 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0002 ppm	0.0000 ppm	0.0004 ppm	0.0262 ppm	0.4658 ppm	7.7956 ppm	0.0015 ppm
Concentration per Run 1	-0.0002 ppm	0.0001 ppm	0.0002 ppm	0.0260 ppm	0.4597 ppm	7.7481 ppm	0.0018 ppm
Concentration per Run 2	-0.0001 ppm	0.0000 ppm	0.0005 ppm	0.0263 ppm	0.4678 ppm	7.8071 ppm	0.0017 ppm
Concentration per Run 3	-0.0002 ppm	0.0001 ppm	0.0004 ppm	0.0262 ppm	0.4699 ppm	7.8317 ppm	0.0011 ppm
Concentration RSD	13.9 %	121.7 %	43.5 %	0.7 %	1.2 %	0.6 %	22.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	9.1423 ppm	0.0093 ppm	0.0014 ppm	21.3762 ppm	0.0019 ppm	0.0028 ppm	0.0005 ppm
Concentration per Run 1	9.1559 ppm	0.0092 ppm	0.0014 ppm	21.2550 ppm	0.0019 ppm	0.0032 ppm	0.0006 ppm
Concentration per Run 2	9.1348 ppm	0.0093 ppm	0.0014 ppm	21.4939 ppm	0.0021 ppm	0.0023 ppm	0.0000 ppm
Concentration per Run 3	9.1363 ppm	0.0095 ppm	0.0014 ppm	21.3797 ppm	0.0019 ppm	0.0031 ppm	0.0008 ppm
Concentration RSD	0.1 %	1.6 %	2.3 %	0.6 %	7.4 %	16.9 %	92.5 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0004 ppm	0.4857 ppm	0.0004 ppm	0.1419 ppm	0.0017 ppm	-0.0016 ppm	-0.0001 ppm
Concentration per Run 1	-0.0002 ppm	0.4841 ppm	0.0003 ppm	0.1404 ppm	0.0016 ppm	-0.0016 ppm	-0.0002 ppm
Concentration per Run 2	0.0009 ppm	0.4844 ppm	0.0005 ppm	0.1424 ppm	0.0018 ppm	-0.0020 ppm	-0.0002 ppm
Concentration per Run 3	-0.0019 ppm	0.4886 ppm	0.0006 ppm	0.1428 ppm	0.0016 ppm	-0.0012 ppm	0.0002 ppm
Concentration RSD	367.8 %	0.5 %	35.8 %	0.9 %	7.6 %	26.4 %	358.0 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0382 ppm	101.2747 %	98.8374 %	98.1121 %	103.4447 %	95.8034 %	98.8029 %
Concentration per Run 1	0.0382 ppm	101.2252 %	98.4495 %	98.2089 %	104.5645 %	95.8386 %	98.7476 %
Concentration per Run 2	0.0381 ppm	101.3555 %	99.1490 %	98.2469 %	103.3526 %	95.9358 %	98.8732 %
Concentration per Run 3	0.0383 ppm	101.2435 %	98.9137 %	97.8804 %	102.4171 %	95.6358 %	98.7880 %
Concentration RSD	0.2 %	0.1 %	0.4 %	0.2 %	1.0 %	0.2 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2452844-01 WG1973830
 Analysis started at: 9/20/2024 1:29:44 PM
 Comments: <Comment>
 Rack: 1
 Vial: 33

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	1.7911 ppm	0.0061 ppm	0.1198 ppm	0.0222 ppm	0.0002 ppm	8.0097 ppm
Concentration per Run 1	0.0000 ppm	1.7818 ppm	0.0055 ppm	0.1200 ppm	0.0221 ppm	0.0002 ppm	7.9769 ppm
Concentration per Run 2	0.0001 ppm	1.7931 ppm	0.0071 ppm	0.1206 ppm	0.0222 ppm	0.0002 ppm	7.9944 ppm
Concentration per Run 3	-0.0003 ppm	1.7983 ppm	0.0058 ppm	0.1189 ppm	0.0223 ppm	0.0002 ppm	8.0577 ppm
Concentration RSD	286.9 %	0.5 %	14.3 %	0.7 %	0.5 %	5.4 %	0.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0018 ppm	0.0036 ppm	0.0058 ppm	0.0905 ppm	2.9403 ppm	363.8965 ppm	0.0027 ppm
Concentration per Run 1	0.0018 ppm	0.0035 ppm	0.0057 ppm	0.0903 ppm	2.9326 ppm	369.2160 ppm	0.0027 ppm
Concentration per Run 2	0.0018 ppm	0.0038 ppm	0.0058 ppm	0.0907 ppm	2.9299 ppm	352.0832 ppm	0.0028 ppm
Concentration per Run 3	0.0018 ppm	0.0037 ppm	0.0058 ppm	0.0904 ppm	2.9583 ppm	370.3903 ppm	0.0027 ppm
Concentration RSD	0.9 %	3.7 %	1.0 %	0.2 %	0.5 %	2.8 %	1.8 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	14.3509 ppm	0.3424 ppm	0.0014 ppm	26.5370 ppm	0.0072 ppm	0.0040 ppm	0.0007 ppm
Concentration per Run 1	14.3752 ppm	0.3416 ppm	0.0013 ppm	26.2486 ppm	0.0071 ppm	0.0040 ppm	0.0003 ppm
Concentration per Run 2	14.3247 ppm	0.3411 ppm	0.0014 ppm	26.6889 ppm	0.0076 ppm	0.0040 ppm	0.0006 ppm
Concentration per Run 3	14.3527 ppm	0.3445 ppm	0.0015 ppm	26.6735 ppm	0.0070 ppm	0.0040 ppm	0.0012 ppm
Concentration RSD	0.2 %	0.5 %	8.9 %	0.9 %	4.4 %	0.8 %	63.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0008 ppm	2.2153 ppm	0.0023 ppm	0.0311 ppm	0.0322 ppm	-0.0062 ppm	0.0041 ppm
Concentration per Run 1	0.0003 ppm	2.2169 ppm	0.0026 ppm	0.0309 ppm	0.0323 ppm	-0.0067 ppm	0.0042 ppm
Concentration per Run 2	0.0019 ppm	2.2207 ppm	0.0024 ppm	0.0311 ppm	0.0320 ppm	-0.0062 ppm	0.0041 ppm
Concentration per Run 3	0.0002 ppm	2.2084 ppm	0.0020 ppm	0.0312 ppm	0.0323 ppm	-0.0056 ppm	0.0041 ppm
Concentration RSD	114.6 %	0.3 %	13.6 %	0.5 %	0.5 %	9.2 %	1.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.2534 ppm	97.4848 %	93.7731 %	95.3986 %	95.4267 %	82.5337 %	89.9094 %
Concentration per Run 1	0.2539 ppm	97.3851 %	93.6811 %	95.4905 %	95.9625 %	82.9339 %	89.7454 %
Concentration per Run 2	0.2534 ppm	97.6951 %	93.7888 %	95.2803 %	95.6800 %	82.5110 %	89.9923 %
Concentration per Run 3	0.2531 ppm	97.3742 %	93.8494 %	95.4251 %	94.6376 %	82.1561 %	89.9904 %
Concentration RSD	0.2 %	0.2 %	0.1 %	0.1 %	0.7 %	0.5 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2453053-01 WG1973830
 Analysis started at: 9/20/2024 1:36:07 PM
 Comments: <Comment>
 Rack: 1
 Vial: 26

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0054 ppm	0.0005 ppm	0.0115 ppm	0.0222 ppm	0.0000 ppm	18.0045 ppm
Concentration per Run 1	0.0000 ppm	0.0061 ppm	0.0011 ppm	0.0116 ppm	0.0223 ppm	0.0000 ppm	18.0676 ppm
Concentration per Run 2	-0.0003 ppm	0.0056 ppm	-0.0009 ppm	0.0117 ppm	0.0220 ppm	0.0000 ppm	17.8926 ppm
Concentration per Run 3	-0.0001 ppm	0.0046 ppm	0.0011 ppm	0.0111 ppm	0.0222 ppm	0.0000 ppm	18.0534 ppm
Concentration RSD	122.8 %	14.3 %	251.4 %	2.9 %	0.8 %	2,108.0 %	0.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0001 ppm	0.0001 ppm	0.0001 ppm	0.0007 ppm	0.0706 ppm	1.8970 ppm	0.0002 ppm
Concentration per Run 1	-0.0001 ppm	0.0002 ppm	0.0002 ppm	0.0008 ppm	0.0707 ppm	1.9176 ppm	0.0003 ppm
Concentration per Run 2	-0.0001 ppm	0.0000 ppm	0.0001 ppm	0.0008 ppm	0.0701 ppm	1.9007 ppm	-0.0002 ppm
Concentration per Run 3	-0.0001 ppm	0.0000 ppm	0.0001 ppm	0.0007 ppm	0.0711 ppm	1.8726 ppm	0.0003 ppm
Concentration RSD	28.9 %	231.7 %	40.1 %	7.3 %	0.7 %	1.2 %	168.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	3.2046 ppm	0.0487 ppm	0.0003 ppm	2.4147 ppm	-0.0004 ppm	-0.0004 ppm	0.0004 ppm
Concentration per Run 1	3.2006 ppm	0.0483 ppm	0.0002 ppm	2.4206 ppm	-0.0004 ppm	-0.0004 ppm	0.0004 ppm
Concentration per Run 2	3.2121 ppm	0.0488 ppm	0.0003 ppm	2.4127 ppm	-0.0005 ppm	-0.0001 ppm	0.0007 ppm
Concentration per Run 3	3.2012 ppm	0.0489 ppm	0.0002 ppm	2.4108 ppm	-0.0004 ppm	-0.0007 ppm	0.0001 ppm
Concentration RSD	0.2 %	0.6 %	9.2 %	0.2 %	12.1 %	78.4 %	70.3 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0015 ppm	4.5854 ppm	-0.0005 ppm	0.0542 ppm	-0.0002 ppm	0.0001 ppm	0.0001 ppm
Concentration per Run 1	0.0021 ppm	4.5979 ppm	-0.0008 ppm	0.0543 ppm	-0.0003 ppm	0.0002 ppm	0.0003 ppm
Concentration per Run 2	0.0004 ppm	4.5779 ppm	-0.0003 ppm	0.0541 ppm	0.0000 ppm	-0.0002 ppm	0.0000 ppm
Concentration per Run 3	0.0020 ppm	4.5806 ppm	-0.0004 ppm	0.0541 ppm	-0.0002 ppm	0.0002 ppm	0.0000 ppm
Concentration RSD	63.2 %	0.2 %	46.7 %	0.3 %	86.1 %	317.8 %	132.0 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0018 ppm	103.3130 %	102.2897 %	102.9551 %	103.3866 %	102.0114 %	102.0173 %
Concentration per Run 1	0.0017 ppm	103.3943 %	102.1317 %	102.6059 %	103.1906 %	101.6516 %	102.3672 %
Concentration per Run 2	0.0018 ppm	103.5136 %	102.5306 %	103.2635 %	104.1428 %	102.1556 %	102.1282 %
Concentration per Run 3	0.0018 ppm	103.0311 %	102.2069 %	102.9960 %	102.8262 %	102.2269 %	101.5564 %
Concentration RSD	2.6 %	0.2 %	0.2 %	0.3 %	0.7 %	0.3 %	0.4 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973830-3 WG1973830
 Analysis started at: 9/20/2024 1:42:26 PM
 Comments: <Comment>
 Rack: 1
 Vial: 27

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0530 ppm	2.0210 ppm	0.1229 ppm	1.0441 ppm	2.0087 ppm	0.0499 ppm	28.9447 ppm
Concentration per Run 1	0.0529 ppm	1.9981 ppm	0.1244 ppm	1.0440 ppm	1.9928 ppm	0.0494 ppm	28.7040 ppm
Concentration per Run 2	0.0531 ppm	2.0307 ppm	0.1213 ppm	1.0433 ppm	2.0110 ppm	0.0501 ppm	29.0454 ppm
Concentration per Run 3	0.0531 ppm	2.0344 ppm	0.1229 ppm	1.0450 ppm	2.0222 ppm	0.0502 ppm	29.0849 ppm
Concentration RSD	0.2 %	1.0 %	1.3 %	0.1 %	0.7 %	0.9 %	0.7 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0525 ppm	0.4940 ppm	0.1966 ppm	0.2558 ppm	1.0710 ppm	12.7062 ppm	-0.0010 ppm
Concentration per Run 1	0.0527 ppm	0.4948 ppm	0.1968 ppm	0.2557 ppm	1.0605 ppm	12.6040 ppm	-0.0009 ppm
Concentration per Run 2	0.0525 ppm	0.4939 ppm	0.1968 ppm	0.2564 ppm	1.0748 ppm	12.7307 ppm	-0.0017 ppm
Concentration per Run 3	0.0523 ppm	0.4932 ppm	0.1964 ppm	0.2553 ppm	1.0776 ppm	12.7840 ppm	-0.0003 ppm
Concentration RSD	0.4 %	0.2 %	0.1 %	0.2 %	0.9 %	0.7 %	74.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	13.8764 ppm	0.5472 ppm	1.0058 ppm	13.1181 ppm	0.4954 ppm	0.5450 ppm	0.5170 ppm
Concentration per Run 1	13.8387 ppm	0.5425 ppm	1.0042 ppm	13.0172 ppm	0.4950 ppm	0.5459 ppm	0.5156 ppm
Concentration per Run 2	13.8851 ppm	0.5489 ppm	1.0056 ppm	13.1772 ppm	0.4955 ppm	0.5442 ppm	0.5176 ppm
Concentration per Run 3	13.9055 ppm	0.5502 ppm	1.0075 ppm	13.1599 ppm	0.4957 ppm	0.5449 ppm	0.5179 ppm
Concentration RSD	0.2 %	0.8 %	0.2 %	0.7 %	0.1 %	0.2 %	0.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1263 ppm	5.9037 ppm	1.0046 ppm	1.0334 ppm	1.0319 ppm	0.1236 ppm	0.4936 ppm
Concentration per Run 1	0.1270 ppm	5.9007 ppm	1.0041 ppm	1.0241 ppm	1.0321 ppm	0.1237 ppm	0.4942 ppm
Concentration per Run 2	0.1271 ppm	5.8924 ppm	1.0052 ppm	1.0370 ppm	1.0332 ppm	0.1238 ppm	0.4939 ppm
Concentration per Run 3	0.1248 ppm	5.9179 ppm	1.0044 ppm	1.0392 ppm	1.0302 ppm	0.1232 ppm	0.4927 ppm
Concentration RSD	1.0 %	0.2 %	0.1 %	0.8 %	0.1 %	0.2 %	0.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.4942 ppm	98.6379 %	98.0925 %	98.9396 %	99.9286 %	95.7809 %	97.4114 %
Concentration per Run 1	0.4949 ppm	98.6643 %	97.9447 %	98.7581 %	100.9072 %	95.6517 %	97.3549 %
Concentration per Run 2	0.4952 ppm	99.0887 %	98.2933 %	99.0470 %	99.9108 %	95.8469 %	97.3701 %
Concentration per Run 3	0.4926 ppm	98.1606 %	98.0395 %	99.0139 %	98.9678 %	95.8441 %	97.5090 %
Concentration RSD	0.3 %	0.5 %	0.2 %	0.2 %	1.0 %	0.1 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973830-4 WG1973830
 Analysis started at: 9/20/2024 1:48:36 PM
 Comments: <Comment>
 Rack: 1
 Vial: 28

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0521 ppm	2.0131 ppm	0.1220 ppm	1.0253 ppm	2.0227 ppm	0.0497 ppm	27.9991 ppm
Concentration per Run 1	0.0522 ppm	1.9898 ppm	0.1211 ppm	1.0231 ppm	2.0207 ppm	0.0492 ppm	27.6900 ppm
Concentration per Run 2	0.0520 ppm	2.0124 ppm	0.1244 ppm	1.0263 ppm	2.0035 ppm	0.0497 ppm	27.9489 ppm
Concentration per Run 3	0.0521 ppm	2.0371 ppm	0.1204 ppm	1.0265 ppm	2.0440 ppm	0.0503 ppm	28.3583 ppm
Concentration RSD	0.2 %	1.2 %	1.7 %	0.2 %	1.0 %	1.0 %	1.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0522 ppm	0.4919 ppm	0.1959 ppm	0.2550 ppm	1.1484 ppm	12.4786 ppm	-0.0008 ppm
Concentration per Run 1	0.0519 ppm	0.4911 ppm	0.1956 ppm	0.2557 ppm	1.1356 ppm	12.3854 ppm	-0.0012 ppm
Concentration per Run 2	0.0524 ppm	0.4922 ppm	0.1964 ppm	0.2552 ppm	1.1481 ppm	12.6138 ppm	-0.0005 ppm
Concentration per Run 3	0.0523 ppm	0.4924 ppm	0.1957 ppm	0.2542 ppm	1.1616 ppm	12.4366 ppm	-0.0005 ppm
Concentration RSD	0.4 %	0.1 %	0.2 %	0.3 %	1.1 %	1.0 %	53.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	13.4480 ppm	0.5422 ppm	0.9884 ppm	12.8150 ppm	0.4943 ppm	0.5352 ppm	0.5155 ppm
Concentration per Run 1	13.4382 ppm	0.5371 ppm	0.9863 ppm	12.7328 ppm	0.4930 ppm	0.5341 ppm	0.5146 ppm
Concentration per Run 2	13.4579 ppm	0.5419 ppm	0.9879 ppm	12.8859 ppm	0.4946 ppm	0.5354 ppm	0.5154 ppm
Concentration per Run 3	13.4478 ppm	0.5476 ppm	0.9909 ppm	12.8264 ppm	0.4952 ppm	0.5362 ppm	0.5165 ppm
Concentration RSD	0.1 %	1.0 %	0.2 %	0.6 %	0.2 %	0.2 %	0.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1252 ppm	5.7213 ppm	0.9856 ppm	1.0111 ppm	1.0121 ppm	0.1222 ppm	0.4897 ppm
Concentration per Run 1	0.1239 ppm	5.7099 ppm	0.9852 ppm	1.0038 ppm	1.0099 ppm	0.1223 ppm	0.4879 ppm
Concentration per Run 2	0.1269 ppm	5.7240 ppm	0.9849 ppm	1.0120 ppm	1.0157 ppm	0.1230 ppm	0.4915 ppm
Concentration per Run 3	0.1250 ppm	5.7301 ppm	0.9867 ppm	1.0175 ppm	1.0107 ppm	0.1214 ppm	0.4898 ppm
Concentration RSD	1.2 %	0.2 %	0.1 %	0.7 %	0.3 %	0.7 %	0.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.4936 ppm	100.7737 %	99.4203 %	100.1499 %	100.9340 %	96.7378 %	98.6723 %
Concentration per Run 1	0.4929 ppm	101.0983 %	99.9174 %	100.3934 %	102.1851 %	96.8149 %	99.1871 %
Concentration per Run 2	0.4934 ppm	100.9223 %	99.1963 %	100.0215 %	101.2703 %	96.6607 %	98.2666 %
Concentration per Run 3	0.4946 ppm	100.3006 %	99.1473 %	100.0347 %	99.3466 %	96.7377 %	98.5633 %
Concentration RSD	0.2 %	0.4 %	0.4 %	0.2 %	1.4 %	0.1 %	0.5 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973830-5 WG1973830
 Analysis started at: 9/20/2024 1:54:46 PM
 Comments: <Comment>
 Rack: 1
 Vial: 29

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0492 ppm	1.9581 ppm	0.1168 ppm	0.9977 ppm	1.9614 ppm	0.0485 ppm	27.7220 ppm
Concentration per Run 1	0.0492 ppm	1.9519 ppm	0.1183 ppm	1.0017 ppm	1.9598 ppm	0.0483 ppm	27.6321 ppm
Concentration per Run 2	0.0491 ppm	1.9567 ppm	0.1153 ppm	0.9960 ppm	2.0070 ppm	0.0485 ppm	27.7174 ppm
Concentration per Run 3	0.0492 ppm	1.9658 ppm	0.1168 ppm	0.9955 ppm	1.9173 ppm	0.0486 ppm	27.8164 ppm
Concentration RSD	0.1 %	0.4 %	1.3 %	0.3 %	2.3 %	0.3 %	0.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0511 ppm	0.4798 ppm	0.1916 ppm	0.2473 ppm	1.0437 ppm	12.1881 ppm	-0.0005 ppm
Concentration per Run 1	0.0511 ppm	0.4807 ppm	0.1932 ppm	0.2464 ppm	1.0381 ppm	12.1199 ppm	-0.0016 ppm
Concentration per Run 2	0.0513 ppm	0.4792 ppm	0.1905 ppm	0.2477 ppm	1.0464 ppm	12.2141 ppm	-0.0006 ppm
Concentration per Run 3	0.0510 ppm	0.4796 ppm	0.1913 ppm	0.2478 ppm	1.0466 ppm	12.2303 ppm	0.0006 ppm
Concentration RSD	0.3 %	0.2 %	0.7 %	0.3 %	0.5 %	0.5 %	215.0 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	13.2916 ppm	0.5310 ppm	0.9626 ppm	12.6220 ppm	0.4829 ppm	0.5218 ppm	0.4919 ppm
Concentration per Run 1	13.2650 ppm	0.5286 ppm	0.9638 ppm	12.5638 ppm	0.4844 ppm	0.5222 ppm	0.4937 ppm
Concentration per Run 2	13.2380 ppm	0.5308 ppm	0.9617 ppm	12.6346 ppm	0.4816 ppm	0.5219 ppm	0.4917 ppm
Concentration per Run 3	13.3719 ppm	0.5336 ppm	0.9625 ppm	12.6676 ppm	0.4825 ppm	0.5212 ppm	0.4902 ppm
Concentration RSD	0.5 %	0.5 %	0.1 %	0.4 %	0.3 %	0.1 %	0.4 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1200 ppm	5.5695 ppm	0.9741 ppm	0.9893 ppm	0.9945 ppm	0.1180 ppm	0.4808 ppm
Concentration per Run 1	0.1193 ppm	5.5902 ppm	0.9748 ppm	0.9831 ppm	1.0001 ppm	0.1186 ppm	0.4835 ppm
Concentration per Run 2	0.1201 ppm	5.5523 ppm	0.9755 ppm	0.9923 ppm	0.9916 ppm	0.1175 ppm	0.4789 ppm
Concentration per Run 3	0.1205 ppm	5.5659 ppm	0.9721 ppm	0.9926 ppm	0.9919 ppm	0.1180 ppm	0.4799 ppm
Concentration RSD	0.5 %	0.3 %	0.2 %	0.5 %	0.5 %	0.5 %	0.5 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.4846 ppm	99.0284 %	97.7868 %	99.1244 %	99.8335 %	95.3649 %	96.9993 %
Concentration per Run 1	0.4841 ppm	99.0372 %	97.8894 %	98.7915 %	100.1115 %	95.1101 %	96.7809 %
Concentration per Run 2	0.4860 ppm	99.2117 %	98.0969 %	99.4746 %	99.7884 %	95.8325 %	97.3016 %
Concentration per Run 3	0.4838 ppm	98.8362 %	97.3743 %	99.1072 %	99.6007 %	95.1523 %	96.9155 %
Concentration RSD	0.2 %	0.2 %	0.4 %	0.3 %	0.3 %	0.4 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1973830-6D5 WG1973830
 Analysis started at: 9/20/2024 2:00:56 PM
 Comments: <Comment>
 Rack: 1
 Vial: 30

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0061 ppm	-0.0002 ppm	0.0046 ppm	0.0045 ppm	0.0000 ppm	3.6846 ppm
Concentration per Run 1	0.0002 ppm	0.0028 ppm	-0.0012 ppm	0.0046 ppm	0.0044 ppm	0.0000 ppm	3.6365 ppm
Concentration per Run 2	-0.0002 ppm	0.0054 ppm	0.0007 ppm	0.0046 ppm	0.0045 ppm	0.0000 ppm	3.7116 ppm
Concentration per Run 3	-0.0003 ppm	0.0101 ppm	0.0000 ppm	0.0045 ppm	0.0045 ppm	0.0000 ppm	3.7055 ppm
Concentration RSD	239.1 %	60.4 %	584.2 %	1.8 %	0.9 %	189.7 %	1.1 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	0.0000 ppm	0.0003 ppm	0.0152 ppm	0.3508 ppm	0.0000 ppm
Concentration per Run 1	0.0000 ppm	0.0001 ppm	0.0000 ppm	0.0003 ppm	0.0151 ppm	0.3394 ppm	-0.0002 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	0.0001 ppm	0.0003 ppm	0.0152 ppm	0.3547 ppm	0.0002 ppm
Concentration per Run 3	0.0000 ppm	0.0001 ppm	-0.0001 ppm	0.0003 ppm	0.0154 ppm	0.3582 ppm	0.0002 ppm
Concentration RSD	47.6 %	16.8 %	689.2 %	13.8 %	1.0 %	2.9 %	570.1 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.6554 ppm	0.0099 ppm	0.0012 ppm	0.4815 ppm	-0.0002 ppm	0.0002 ppm	0.0010 ppm
Concentration per Run 1	0.6531 ppm	0.0097 ppm	0.0014 ppm	0.4791 ppm	-0.0004 ppm	0.0008 ppm	0.0008 ppm
Concentration per Run 2	0.6556 ppm	0.0100 ppm	0.0010 ppm	0.4815 ppm	-0.0002 ppm	-0.0004 ppm	0.0010 ppm
Concentration per Run 3	0.6574 ppm	0.0100 ppm	0.0011 ppm	0.4839 ppm	0.0000 ppm	0.0002 ppm	0.0012 ppm
Concentration RSD	0.3 %	1.5 %	19.7 %	0.5 %	91.3 %	295.7 %	21.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0013 ppm	0.9161 ppm	0.0009 ppm	0.0109 ppm	0.0000 ppm	0.0005 ppm	0.0000 ppm
Concentration per Run 1	0.0019 ppm	0.9134 ppm	0.0008 ppm	0.0108 ppm	0.0000 ppm	-0.0001 ppm	0.0000 ppm
Concentration per Run 2	0.0017 ppm	0.9177 ppm	0.0010 ppm	0.0109 ppm	0.0000 ppm	0.0007 ppm	-0.0001 ppm
Concentration per Run 3	0.0004 ppm	0.9173 ppm	0.0010 ppm	0.0110 ppm	0.0001 ppm	0.0009 ppm	0.0000 ppm
Concentration RSD	59.8 %	0.3 %	12.3 %	0.9 %	255.3 %	108.8 %	285.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0008 ppm	99.5623 %	100.5222 %	102.2040 %	100.2601 %	101.8816 %	100.9017 %
Concentration per Run 1	0.0009 ppm	100.1962 %	100.7507 %	102.3536 %	101.3296 %	102.2686 %	100.7667 %
Concentration per Run 2	0.0008 ppm	98.9339 %	100.5878 %	102.0324 %	99.7202 %	101.6110 %	101.2880 %
Concentration per Run 3	0.0006 ppm	99.5569 %	100.2282 %	102.2261 %	99.7304 %	101.7653 %	100.6505 %
Concentration RSD	16.1 %	0.6 %	0.3 %	0.2 %	0.9 %	0.3 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCV
 Analysis started at: 9/20/2024 2:07:17 PM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5095 ppm	0.5019 ppm	0.5035 ppm	0.5129 ppm	0.4926 ppm	0.5022 ppm	0.4986 ppm
Concentration per Run 1	0.5100 ppm	0.4958 ppm	0.5034 ppm	0.5117 ppm	0.4823 ppm	0.4918 ppm	0.4885 ppm
Concentration per Run 2	0.5083 ppm	0.5019 ppm	0.5033 ppm	0.5134 ppm	0.4947 ppm	0.5054 ppm	0.5021 ppm
Concentration per Run 3	0.5102 ppm	0.5080 ppm	0.5040 ppm	0.5134 ppm	0.5008 ppm	0.5093 ppm	0.5050 ppm
Recovery Percentage 1	101.898 %	100.377 %	100.710 %	102.571 %	98.516 %	100.434 %	99.711 %
Concentration RSD	0.2 %	1.2 %	0.1 %	0.2 %	1.9 %	1.8 %	1.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.5050 ppm	0.5154 ppm	0.4951 ppm	0.4867 ppm	0.5291 ppm	5.2563 ppm	0.4932 ppm
Concentration per Run 1	0.5038 ppm	0.5143 ppm	0.4958 ppm	0.4874 ppm	0.5185 ppm	5.1868 ppm	0.4834 ppm
Concentration per Run 2	0.5055 ppm	0.5162 ppm	0.4941 ppm	0.4856 ppm	0.5317 ppm	5.3025 ppm	0.4977 ppm
Concentration per Run 3	0.5056 ppm	0.5158 ppm	0.4954 ppm	0.4870 ppm	0.5371 ppm	5.2797 ppm	0.4985 ppm
Recovery Percentage 1	100.993 %	103.088 %	99.022 %	97.332 %	105.818 %	105.127 %	98.644 %
Concentration RSD	0.2 %	0.2 %	0.2 %	0.2 %	1.8 %	1.2 %	1.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5026 ppm	0.4913 ppm	0.4985 ppm	9.8815 ppm	0.5184 ppm	0.5219 ppm	0.5167 ppm
Concentration per Run 1	0.4985 ppm	0.4815 ppm	0.4969 ppm	9.6947 ppm	0.5176 ppm	0.5201 ppm	0.5152 ppm
Concentration per Run 2	0.5025 ppm	0.4961 ppm	0.4988 ppm	9.9433 ppm	0.5188 ppm	0.5226 ppm	0.5174 ppm
Concentration per Run 3	0.5068 ppm	0.4962 ppm	0.4997 ppm	10.0066 ppm	0.5189 ppm	0.5230 ppm	0.5176 ppm
Recovery Percentage 1	100.518 %	98.252 %	99.695 %	98.815 %	103.689 %	104.379 %	103.340 %
Concentration RSD	0.8 %	1.7 %	0.3 %	1.7 %	0.1 %	0.3 %	0.3 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.5230 ppm	5.6912 ppm	0.4869 ppm	0.4672 ppm	0.5014 ppm	0.5307 ppm	0.4903 ppm
Concentration per Run 1	0.5219 ppm	5.6841 ppm	0.4853 ppm	0.4578 ppm	0.5029 ppm	0.5293 ppm	0.4917 ppm
Concentration per Run 2	0.5230 ppm	5.6919 ppm	0.4873 ppm	0.4698 ppm	0.5006 ppm	0.5311 ppm	0.4896 ppm
Concentration per Run 3	0.5240 ppm	5.6976 ppm	0.4882 ppm	0.4741 ppm	0.5009 ppm	0.5316 ppm	0.4895 ppm
Recovery Percentage 1	104.591 %	108.404 %	97.387 %	93.443 %	100.288 %	106.138 %	98.051 %
Concentration RSD	0.2 %	0.1 %	0.3 %	1.8 %	0.3 %	0.2 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5358 ppm	97.6445 %	98.0927 %	99.8815 %	98.6960 %	97.6078 %	98.8536 %
Concentration per Run 1	0.5340 ppm	98.2725 %	98.0850 %	99.9380 %	100.4725 %	97.5235 %	98.7073 %
Concentration per Run 2	0.5360 ppm	96.9743 %	98.2535 %	99.9315 %	98.0835 %	97.6981 %	98.8752 %
Concentration per Run 3	0.5373 ppm	97.6868 %	97.9395 %	99.7751 %	97.5320 %	97.6018 %	98.9783 %
Recovery Percentage 1	107.150 %						
Concentration RSD	0.3 %	0.7 %	0.2 %	0.1 %	1.6 %	0.1 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCB
 Analysis started at: 9/20/2024 2:13:20 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0117 ppm	0.0000 ppm	0.0013 ppm	0.0000 ppm	0.0000 ppm	-0.0004 ppm
Concentration per Run 1	0.0000 ppm	0.0097 ppm	0.0007 ppm	0.0012 ppm	0.0001 ppm	0.0000 ppm	0.0007 ppm
Concentration per Run 2	0.0000 ppm	0.0121 ppm	-0.0010 ppm	0.0016 ppm	-0.0001 ppm	0.0000 ppm	0.0007 ppm
Concentration per Run 3	-0.0002 ppm	0.0134 ppm	0.0005 ppm	0.0010 ppm	0.0000 ppm	0.0000 ppm	-0.0026 ppm
Recovery Percentage 1	-0.904 %	11.714 %	0.749 %	4.190 %	-0.129 %	0.254 %	-0.409 %
Concentration RSD	187.4 %	15.9 %	2,495.3 %	22.2 %	766.8 %	182.2 %	463.0 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	0.0002 ppm	-0.0001 ppm	0.0012 ppm	-0.0134 ppm	-0.0001 ppm
Concentration per Run 1	0.0000 ppm	0.0000 ppm	0.0001 ppm	-0.0001 ppm	0.0012 ppm	-0.0220 ppm	0.0001 ppm
Concentration per Run 2	0.0000 ppm	0.0000 ppm	0.0003 ppm	-0.0002 ppm	0.0004 ppm	-0.0161 ppm	-0.0004 ppm
Concentration per Run 3	0.0000 ppm	0.0001 ppm	0.0002 ppm	-0.0001 ppm	0.0019 ppm	-0.0020 ppm	0.0000 ppm
Recovery Percentage 1	0.752 %	0.287 %	1.798 %	-1.391 %	2.366 %	-0.535 %	-0.790 %
Concentration RSD	103.4 %	49.5 %	59.8 %	23.5 %	64.5 %	76.6 %	345.8 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0003 ppm	-0.0001 ppm	0.0005 ppm	0.0058 ppm	-0.0003 ppm	0.0001 ppm	0.0002 ppm
Concentration per Run 1	0.0010 ppm	0.0001 ppm	0.0005 ppm	0.0074 ppm	-0.0003 ppm	-0.0003 ppm	-0.0007 ppm
Concentration per Run 2	-0.0002 ppm	-0.0002 ppm	0.0006 ppm	0.0099 ppm	-0.0003 ppm	0.0002 ppm	0.0003 ppm
Concentration per Run 3	-0.0001 ppm	-0.0001 ppm	0.0004 ppm	0.0000 ppm	-0.0004 ppm	0.0004 ppm	0.0011 ppm
Recovery Percentage 1	0.252 %	-0.610 %	1.032 %	0.289 %	-1.269 %	0.715 %	0.468 %
Concentration RSD	264.8 %	192.7 %	15.6 %	88.6 %	21.7 %	496.4 %	398.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0004 ppm	-0.0003 ppm	0.0003 ppm	0.0000 ppm	-0.0001 ppm	0.0001 ppm	0.0000 ppm
Concentration per Run 1	0.0004 ppm	0.0020 ppm	0.0004 ppm	0.0000 ppm	-0.0001 ppm	-0.0002 ppm	0.0001 ppm
Concentration per Run 2	-0.0005 ppm	-0.0010 ppm	0.0004 ppm	0.0000 ppm	-0.0001 ppm	0.0003 ppm	0.0000 ppm
Concentration per Run 3	0.0014 ppm	-0.0018 ppm	0.0001 ppm	0.0000 ppm	-0.0001 ppm	0.0003 ppm	0.0001 ppm
Recovery Percentage 1	4.452 %	-0.058 %	0.562 %	-0.137 %	-0.843 %	0.664 %	0.487 %
Concentration RSD	221.5 %	688.0 %	67.3 %	65.8 %	41.2 %	188.5 %	163.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0003 ppm	96.0737 %	98.5140 %	103.1213 %	97.0720 %	102.4682 %	98.7123 %
Concentration per Run 1	0.0003 ppm	94.1878 %	98.6287 %	103.0170 %	96.9303 %	102.2598 %	98.3956 %
Concentration per Run 2	0.0004 ppm	97.2131 %	98.6776 %	103.2310 %	96.9113 %	102.6551 %	99.0216 %
Concentration per Run 3	0.0003 ppm	96.8202 %	98.2358 %	103.1159 %	97.3745 %	102.4898 %	98.7198 %
Recovery Percentage 1	6.842 %						
Concentration RSD	25.0 %	1.7 %	0.2 %	0.1 %	0.3 %	0.2 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1974186-17 WG1974186
 Analysis started at: 9/20/2024 2:19:46 PM
 Comments: <Comment>
 Rack: 1
 Vial: 34

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0090 ppm	-0.0004 ppm	0.0006 ppm	0.0022 ppm	0.0001 ppm	0.0059 ppm
Concentration per Run 1	-0.0001 ppm	0.0130 ppm	0.0003 ppm	0.0008 ppm	0.0022 ppm	0.0001 ppm	0.0081 ppm
Concentration per Run 2	-0.0001 ppm	0.0063 ppm	-0.0007 ppm	0.0004 ppm	0.0022 ppm	0.0001 ppm	0.0048 ppm
Concentration per Run 3	0.0001 ppm	0.0078 ppm	-0.0007 ppm	0.0006 ppm	0.0021 ppm	0.0001 ppm	0.0048 ppm
Recovery Percentage 1	-0.365 %	9.033 %	-7.237 %	1.992 %	21.899 %	1.737 %	5.909 %
Concentration RSD	424.4 %	39.0 %	146.5 %	36.6 %	3.4 %	31.9 %	32.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0001 ppm	0.0008 ppm	-0.0003 ppm	0.0005 ppm	-0.0019 ppm	-0.0096 ppm	-0.0004 ppm
Concentration per Run 1	0.0001 ppm	0.0008 ppm	-0.0002 ppm	0.0004 ppm	-0.0008 ppm	0.0100 ppm	-0.0005 ppm
Concentration per Run 2	0.0001 ppm	0.0009 ppm	-0.0003 ppm	0.0004 ppm	-0.0022 ppm	-0.0187 ppm	-0.0008 ppm
Concentration per Run 3	0.0001 ppm	0.0007 ppm	-0.0004 ppm	0.0007 ppm	-0.0026 ppm	-0.0201 ppm	-0.0001 ppm
Recovery Percentage 1	2.052 %	4.066 %	-3.015 %	5.192 %	-3.774 %	-0.384 %	-4.483 %
Concentration RSD	23.1 %	13.6 %	31.0 %	30.2 %	50.9 %	177.0 %	82.0 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0012 ppm	0.0009 ppm	0.0001 ppm	0.0075 ppm	0.0004 ppm	0.0004 ppm	0.0007 ppm
Concentration per Run 1	0.0020 ppm	0.0009 ppm	0.0000 ppm	0.0101 ppm	0.0005 ppm	0.0003 ppm	0.0002 ppm
Concentration per Run 2	0.0010 ppm	0.0009 ppm	0.0001 ppm	0.0076 ppm	0.0005 ppm	0.0009 ppm	0.0013 ppm
Concentration per Run 3	0.0008 ppm	0.0008 ppm	0.0001 ppm	0.0049 ppm	0.0003 ppm	-0.0001 ppm	0.0007 ppm
Recovery Percentage 1	1.231 %	8.908 %	0.125 %	0.377 %	1.705 %	4.053 %	1.454 %
Concentration RSD	52.4 %	4.9 %	85.9 %	34.3 %	16.0 %	127.0 %	71.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0005 ppm	-0.0022 ppm	0.0001 ppm	0.0000 ppm	-0.0001 ppm	0.0002 ppm	0.0006 ppm
Concentration per Run 1	0.0009 ppm	-0.0025 ppm	0.0004 ppm	0.0000 ppm	-0.0002 ppm	-0.0002 ppm	0.0007 ppm
Concentration per Run 2	-0.0002 ppm	-0.0019 ppm	0.0001 ppm	0.0000 ppm	-0.0002 ppm	0.0007 ppm	0.0005 ppm
Concentration per Run 3	0.0009 ppm	-0.0022 ppm	-0.0001 ppm	0.0000 ppm	0.0001 ppm	0.0001 ppm	0.0007 ppm
Recovery Percentage 1	5.189 %	-0.442 %	0.285 %	-0.187 %	-1.389 %	0.902 %	6.306 %
Concentration RSD	126.6 %	13.2 %	204.2 %	162.3 %	125.6 %	257.9 %	15.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0014 ppm	99.6462 %	100.7230 %	102.5695 %	99.7417 %	103.8213 %	100.9672 %
Concentration per Run 1	0.0014 ppm	100.3034 %	100.7593 %	102.4035 %	99.8656 %	103.8133 %	100.8814 %
Concentration per Run 2	0.0014 ppm	98.4765 %	100.6474 %	102.6264 %	99.4306 %	103.6055 %	101.0981 %
Concentration per Run 3	0.0015 ppm	100.1587 %	100.7624 %	102.6784 %	99.9290 %	104.0452 %	100.9221 %
Recovery Percentage 1	28.507 %						
Concentration RSD	4.5 %	1.0 %	0.1 %	0.1 %	0.3 %	0.2 %	0.1 %

ICP DataTrace 4

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LabBook: WG1973931_09192024T4.imexp

Sample: WG1974186-18 WG1974186
 Analysis started at: 9/20/2024 2:26:11 PM
 Comments: <Comment>
 Rack: 1
 Vial: 35

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0520 ppm	2.0083 ppm	0.1214 ppm	1.0020 ppm	1.9670 ppm	0.0498 ppm	10.1458 ppm
Concentration per Run 1	0.0522 ppm	1.9785 ppm	0.1211 ppm	1.0027 ppm	1.9936 ppm	0.0493 ppm	10.0945 ppm
Concentration per Run 2	0.0518 ppm	2.0107 ppm	0.1209 ppm	1.0009 ppm	1.9598 ppm	0.0497 ppm	10.1026 ppm
Concentration per Run 3	0.0521 ppm	2.0357 ppm	0.1223 ppm	1.0023 ppm	1.9476 ppm	0.0504 ppm	10.2403 ppm
Concentration RSD	0.4 %	1.4 %	0.7 %	0.1 %	1.2 %	1.1 %	0.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0534 ppm	0.5021 ppm	0.1985 ppm	0.2529 ppm	1.0032 ppm	10.7255 ppm	-0.0010 ppm
Concentration per Run 1	0.0534 ppm	0.5019 ppm	0.1972 ppm	0.2524 ppm	0.9977 ppm	10.5780 ppm	-0.0008 ppm
Concentration per Run 2	0.0535 ppm	0.5025 ppm	0.2000 ppm	0.2532 ppm	0.9970 ppm	10.7436 ppm	-0.0008 ppm
Concentration per Run 3	0.0533 ppm	0.5019 ppm	0.1984 ppm	0.2530 ppm	1.0149 ppm	10.8547 ppm	-0.0013 ppm
Concentration RSD	0.2 %	0.1 %	0.7 %	0.2 %	1.0 %	1.3 %	27.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	10.3139 ppm	0.5001 ppm	1.0091 ppm	10.5319 ppm	0.5088 ppm	0.5483 ppm	0.5117 ppm
Concentration per Run 1	10.3288 ppm	0.4954 ppm	1.0085 ppm	10.3945 ppm	0.5096 ppm	0.5488 ppm	0.5112 ppm
Concentration per Run 2	10.3216 ppm	0.4989 ppm	1.0086 ppm	10.5399 ppm	0.5084 ppm	0.5479 ppm	0.5116 ppm
Concentration per Run 3	10.2914 ppm	0.5058 ppm	1.0102 ppm	10.6614 ppm	0.5085 ppm	0.5483 ppm	0.5123 ppm
Concentration RSD	0.2 %	1.1 %	0.1 %	1.3 %	0.1 %	0.1 %	0.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1228 ppm	1.1365 ppm	1.0014 ppm	0.9611 ppm	1.0248 ppm	0.1233 ppm	0.4943 ppm
Concentration per Run 1	0.1247 ppm	1.1393 ppm	1.0009 ppm	0.9500 ppm	1.0180 ppm	0.1232 ppm	0.4907 ppm
Concentration per Run 2	0.1228 ppm	1.1335 ppm	1.0005 ppm	0.9619 ppm	1.0327 ppm	0.1233 ppm	0.4978 ppm
Concentration per Run 3	0.1208 ppm	1.1366 ppm	1.0027 ppm	0.9713 ppm	1.0238 ppm	0.1234 ppm	0.4944 ppm
Concentration RSD	1.6 %	0.3 %	0.1 %	1.1 %	0.7 %	0.1 %	0.7 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5028 ppm	99.9836 %	99.6831 %	101.4599 %	101.4740 %	98.1552 %	100.1441 %
Concentration per Run 1	0.5025 ppm	99.9553 %	99.3100 %	101.2828 %	102.2768 %	98.1097 %	100.4735 %
Concentration per Run 2	0.5036 ppm	99.6609 %	99.9627 %	101.4728 %	101.6659 %	98.2198 %	99.8424 %
Concentration per Run 3	0.5023 ppm	100.3344 %	99.7767 %	101.6242 %	100.4791 %	98.1361 %	100.1163 %
Concentration RSD	0.1 %	0.3 %	0.3 %	0.2 %	0.9 %	0.1 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2453053-02 WG1974186
 Analysis started at: 9/20/2024 2:32:24 PM
 Comments: <Comment>
 Rack: 1
 Vial: 41

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0024 ppm	0.0011 ppm	0.0321 ppm	0.0235 ppm	0.0000 ppm	10.1652 ppm
Concentration per Run 1	-0.0001 ppm	0.0012 ppm	0.0018 ppm	0.0326 ppm	0.0234 ppm	0.0000 ppm	10.0894 ppm
Concentration per Run 2	-0.0001 ppm	0.0068 ppm	0.0016 ppm	0.0320 ppm	0.0235 ppm	0.0000 ppm	10.1528 ppm
Concentration per Run 3	-0.0001 ppm	-0.0007 ppm	-0.0002 ppm	0.0317 ppm	0.0236 ppm	0.0000 ppm	10.2535 ppm
Concentration RSD	1.2 %	161.5 %	101.5 %	1.5 %	0.5 %	418.3 %	0.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0069 ppm	-0.0005 ppm	0.0003 ppm	2.6187 ppm	0.9687 ppm	0.0002 ppm
Concentration per Run 1	0.0000 ppm	0.0069 ppm	-0.0004 ppm	0.0003 ppm	2.6031 ppm	0.9654 ppm	0.0006 ppm
Concentration per Run 2	0.0000 ppm	0.0067 ppm	-0.0005 ppm	0.0005 ppm	2.6115 ppm	0.9734 ppm	0.0001 ppm
Concentration per Run 3	0.0000 ppm	0.0070 ppm	-0.0005 ppm	0.0002 ppm	2.6415 ppm	0.9673 ppm	-0.0002 ppm
Concentration RSD	34.7 %	2.3 %	14.5 %	41.3 %	0.8 %	0.4 %	258.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	4.4547 ppm	0.1051 ppm	0.0009 ppm	8.1096 ppm	0.0014 ppm	-0.0016 ppm	0.0002 ppm
Concentration per Run 1	4.4567 ppm	0.1042 ppm	0.0010 ppm	8.0830 ppm	0.0016 ppm	-0.0018 ppm	0.0001 ppm
Concentration per Run 2	4.4648 ppm	0.1050 ppm	0.0009 ppm	8.0822 ppm	0.0013 ppm	-0.0017 ppm	0.0012 ppm
Concentration per Run 3	4.4427 ppm	0.1061 ppm	0.0008 ppm	8.1636 ppm	0.0014 ppm	-0.0012 ppm	-0.0005 ppm
Concentration RSD	0.3 %	0.9 %	13.0 %	0.6 %	10.2 %	22.1 %	354.0 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0022 ppm	7.7802 ppm	0.0001 ppm	0.0378 ppm	-0.0001 ppm	-0.0002 ppm	0.0000 ppm
Concentration per Run 1	0.0020 ppm	7.8149 ppm	0.0002 ppm	0.0377 ppm	-0.0001 ppm	0.0000 ppm	-0.0001 ppm
Concentration per Run 2	0.0012 ppm	7.7499 ppm	-0.0001 ppm	0.0378 ppm	0.0001 ppm	-0.0006 ppm	-0.0001 ppm
Concentration per Run 3	0.0033 ppm	7.7757 ppm	0.0001 ppm	0.0380 ppm	-0.0001 ppm	-0.0001 ppm	0.0002 ppm
Concentration RSD	48.0 %	0.4 %	249.0 %	0.4 %	211.0 %	138.7 %	1,283.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0073 ppm	100.0014 %	99.6136 %	101.6739 %	100.5680 %	99.5840 %	100.8312 %
Concentration per Run 1	0.0071 ppm	100.4831 %	99.5579 %	101.3391 %	101.3663 %	99.2501 %	100.8353 %
Concentration per Run 2	0.0074 ppm	99.4490 %	99.5255 %	102.0511 %	100.5783 %	99.7552 %	100.3668 %
Concentration per Run 3	0.0073 ppm	100.0720 %	99.7574 %	101.6315 %	99.7595 %	99.7468 %	101.2914 %
Concentration RSD	1.7 %	0.5 %	0.1 %	0.4 %	0.8 %	0.3 %	0.5 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2453053-03 WG1974186
 Analysis started at: 9/20/2024 2:38:43 PM
 Comments: <Comment>
 Rack: 1
 Vial: 42

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0003 ppm	-0.0004 ppm	0.0136 ppm	0.0255 ppm	0.0000 ppm	29.2653 ppm
Concentration per Run 1	-0.0003 ppm	0.0034 ppm	0.0006 ppm	0.0133 ppm	0.0254 ppm	0.0000 ppm	29.1219 ppm
Concentration per Run 2	0.0000 ppm	0.0007 ppm	-0.0010 ppm	0.0136 ppm	0.0255 ppm	0.0000 ppm	29.3379 ppm
Concentration per Run 3	0.0001 ppm	-0.0032 ppm	-0.0007 ppm	0.0138 ppm	0.0257 ppm	0.0000 ppm	29.3362 ppm
Concentration RSD	467.7 %	1,240.1 %	228.0 %	1.7 %	0.5 %	33.5 %	0.4 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0002 ppm	0.0000 ppm	0.0007 ppm	0.0011 ppm	0.0090 ppm	1.1912 ppm	-0.0009 ppm
Concentration per Run 1	-0.0001 ppm	-0.0001 ppm	0.0007 ppm	0.0010 ppm	0.0086 ppm	1.1950 ppm	-0.0013 ppm
Concentration per Run 2	-0.0002 ppm	-0.0001 ppm	0.0007 ppm	0.0012 ppm	0.0094 ppm	1.1780 ppm	-0.0006 ppm
Concentration per Run 3	-0.0002 ppm	0.0003 ppm	0.0007 ppm	0.0011 ppm	0.0090 ppm	1.2006 ppm	-0.0006 ppm
Concentration RSD	11.0 %	829.7 %	3.9 %	10.0 %	4.4 %	1.0 %	44.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	8.5374 ppm	0.0007 ppm	0.0005 ppm	3.7309 ppm	-0.0001 ppm	0.0002 ppm	0.0008 ppm
Concentration per Run 1	8.5437 ppm	0.0008 ppm	0.0006 ppm	3.7223 ppm	-0.0003 ppm	0.0003 ppm	0.0006 ppm
Concentration per Run 2	8.5393 ppm	0.0007 ppm	0.0004 ppm	3.7270 ppm	0.0000 ppm	-0.0001 ppm	0.0010 ppm
Concentration per Run 3	8.5293 ppm	0.0008 ppm	0.0004 ppm	3.7434 ppm	0.0002 ppm	0.0005 ppm	0.0009 ppm
Concentration RSD	0.1 %	8.5 %	31.0 %	0.3 %	510.0 %	132.0 %	26.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0028 ppm	2.9921 ppm	-0.0001 ppm	0.0565 ppm	-0.0002 ppm	0.0002 ppm	0.0001 ppm
Concentration per Run 1	0.0027 ppm	2.9884 ppm	0.0001 ppm	0.0562 ppm	-0.0002 ppm	0.0004 ppm	0.0001 ppm
Concentration per Run 2	0.0037 ppm	2.9932 ppm	-0.0002 ppm	0.0566 ppm	-0.0003 ppm	-0.0002 ppm	0.0000 ppm
Concentration per Run 3	0.0018 ppm	2.9947 ppm	0.0000 ppm	0.0567 ppm	-0.0002 ppm	0.0005 ppm	0.0002 ppm
Concentration RSD	34.2 %	0.1 %	252.7 %	0.4 %	15.2 %	158.5 %	83.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0038 ppm	100.3592 %	100.1505 %	101.9738 %	101.3696 %	98.3412 %	100.6548 %
Concentration per Run 1	0.0037 ppm	100.7877 %	99.7326 %	102.1405 %	101.7944 %	98.2843 %	99.9890 %
Concentration per Run 2	0.0037 ppm	99.9266 %	100.4537 %	102.0402 %	101.1784 %	98.4803 %	101.2298 %
Concentration per Run 3	0.0039 ppm	100.3632 %	100.2652 %	101.7408 %	101.1361 %	98.2590 %	100.7455 %
Concentration RSD	3.0 %	0.4 %	0.4 %	0.2 %	0.4 %	0.1 %	0.6 %

ICP DataTrace 4

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LabBook: WG1973931_09192024T4.imexp

Sample: L2453053-04 WG1974186
 Analysis started at: 9/20/2024 2:45:02 PM
 Comments: <Comment>
 Rack: 1
 Vial: 43

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.0040 ppm	0.0007 ppm	0.0075 ppm	0.0252 ppm	0.0000 ppm	14.8284 ppm
Concentration per Run 1	0.0000 ppm	0.0064 ppm	0.0007 ppm	0.0072 ppm	0.0250 ppm	0.0000 ppm	14.8183 ppm
Concentration per Run 2	0.0000 ppm	0.0021 ppm	0.0003 ppm	0.0075 ppm	0.0253 ppm	0.0000 ppm	14.8349 ppm
Concentration per Run 3	-0.0005 ppm	0.0035 ppm	0.0010 ppm	0.0077 ppm	0.0251 ppm	0.0000 ppm	14.8319 ppm
Concentration RSD	184.3 %	54.7 %	51.5 %	2.9 %	0.5 %	514.9 %	0.1 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0001 ppm	0.0019 ppm	-0.0003 ppm	0.0003 ppm	2.8959 ppm	0.8404 ppm	0.0008 ppm
Concentration per Run 1	-0.0001 ppm	0.0019 ppm	-0.0001 ppm	0.0004 ppm	2.8860 ppm	0.8655 ppm	0.0002 ppm
Concentration per Run 2	-0.0001 ppm	0.0018 ppm	-0.0005 ppm	0.0004 ppm	2.9078 ppm	0.8219 ppm	0.0011 ppm
Concentration per Run 3	-0.0001 ppm	0.0020 ppm	-0.0004 ppm	0.0001 ppm	2.8939 ppm	0.8339 ppm	0.0011 ppm
Concentration RSD	28.4 %	5.1 %	60.0 %	65.4 %	0.4 %	2.7 %	60.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	5.4428 ppm	0.2057 ppm	0.0002 ppm	7.1813 ppm	-0.0002 ppm	-0.0018 ppm	0.0003 ppm
Concentration per Run 1	5.4419 ppm	0.2052 ppm	0.0001 ppm	7.1530 ppm	0.0001 ppm	-0.0012 ppm	0.0000 ppm
Concentration per Run 2	5.4420 ppm	0.2064 ppm	0.0002 ppm	7.2339 ppm	-0.0004 ppm	-0.0020 ppm	0.0005 ppm
Concentration per Run 3	5.4444 ppm	0.2055 ppm	0.0002 ppm	7.1569 ppm	-0.0002 ppm	-0.0023 ppm	0.0004 ppm
Concentration RSD	0.0 %	0.3 %	19.5 %	0.6 %	163.9 %	30.2 %	78.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0011 ppm	9.6565 ppm	-0.0003 ppm	0.0758 ppm	-0.0001 ppm	-0.0008 ppm	0.0001 ppm
Concentration per Run 1	0.0016 ppm	9.6596 ppm	-0.0003 ppm	0.0755 ppm	-0.0001 ppm	-0.0010 ppm	0.0001 ppm
Concentration per Run 2	0.0020 ppm	9.6623 ppm	0.0002 ppm	0.0763 ppm	0.0002 ppm	-0.0015 ppm	0.0000 ppm
Concentration per Run 3	-0.0003 ppm	9.6477 ppm	-0.0007 ppm	0.0758 ppm	-0.0002 ppm	0.0000 ppm	0.0001 ppm
Concentration RSD	113.7 %	0.1 %	164.0 %	0.5 %	317.1 %	96.8 %	55.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0010 ppm	100.6408 %	99.5438 %	101.2366 %	102.7720 %	97.5228 %	100.7252 %
Concentration per Run 1	0.0010 ppm	100.1315 %	99.3450 %	101.3086 %	102.8974 %	97.4490 %	101.1708 %
Concentration per Run 2	0.0010 ppm	101.3239 %	99.9387 %	101.0672 %	102.9014 %	97.5313 %	100.6463 %
Concentration per Run 3	0.0011 ppm	100.4670 %	99.3477 %	101.3339 %	102.5173 %	97.5882 %	100.3586 %
Concentration RSD	7.7 %	0.6 %	0.3 %	0.1 %	0.2 %	0.1 %	0.4 %

ICP DataTrace 4

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LabBook: WG1973931_09192024T4.imexp

Sample: L2453053-01 WG1974186
 Analysis started at: 9/20/2024 2:51:21 PM
 Comments: <Comment>
 Rack: 1
 Vial: 36

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0041 ppm	0.0002 ppm	0.0103 ppm	0.0210 ppm	0.0000 ppm	17.0544 ppm
Concentration per Run 1	0.0001 ppm	0.0066 ppm	0.0015 ppm	0.0103 ppm	0.0208 ppm	0.0000 ppm	16.9186 ppm
Concentration per Run 2	-0.0002 ppm	0.0010 ppm	-0.0010 ppm	0.0107 ppm	0.0209 ppm	0.0000 ppm	17.0719 ppm
Concentration per Run 3	-0.0002 ppm	0.0045 ppm	0.0001 ppm	0.0099 ppm	0.0213 ppm	0.0000 ppm	17.1727 ppm
Concentration RSD	147.4 %	70.4 %	694.4 %	3.9 %	1.2 %	1,159.7 %	0.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0001 ppm	0.0001 ppm	0.0000 ppm	0.0004 ppm	0.0691 ppm	1.6959 ppm	-0.0005 ppm
Concentration per Run 1	-0.0001 ppm	0.0001 ppm	0.0003 ppm	0.0004 ppm	0.0675 ppm	1.6643 ppm	-0.0005 ppm
Concentration per Run 2	-0.0001 ppm	0.0002 ppm	-0.0003 ppm	0.0006 ppm	0.0695 ppm	1.7069 ppm	-0.0014 ppm
Concentration per Run 3	-0.0001 ppm	0.0000 ppm	0.0000 ppm	0.0004 ppm	0.0704 ppm	1.7165 ppm	0.0003 ppm
Concentration RSD	8.5 %	131.0 %	2,105.4 %	26.2 %	2.1 %	1.6 %	167.3 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	3.0206 ppm	0.0492 ppm	0.0002 ppm	2.2746 ppm	-0.0006 ppm	-0.0001 ppm	0.0006 ppm
Concentration per Run 1	3.0154 ppm	0.0488 ppm	0.0003 ppm	2.2456 ppm	-0.0008 ppm	-0.0002 ppm	0.0002 ppm
Concentration per Run 2	3.0283 ppm	0.0492 ppm	0.0001 ppm	2.2733 ppm	-0.0005 ppm	-0.0008 ppm	0.0005 ppm
Concentration per Run 3	3.0180 ppm	0.0494 ppm	0.0002 ppm	2.3048 ppm	-0.0006 ppm	0.0005 ppm	0.0010 ppm
Concentration RSD	0.2 %	0.6 %	30.8 %	1.3 %	24.3 %	464.8 %	75.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0008 ppm	4.3599 ppm	-0.0001 ppm	0.0509 ppm	-0.0001 ppm	0.0002 ppm	0.0002 ppm
Concentration per Run 1	0.0019 ppm	4.3674 ppm	0.0002 ppm	0.0503 ppm	-0.0002 ppm	-0.0009 ppm	0.0004 ppm
Concentration per Run 2	-0.0002 ppm	4.3746 ppm	-0.0002 ppm	0.0509 ppm	0.0000 ppm	0.0002 ppm	0.0000 ppm
Concentration per Run 3	0.0006 ppm	4.3377 ppm	-0.0003 ppm	0.0514 ppm	-0.0001 ppm	0.0012 ppm	0.0003 ppm
Concentration RSD	140.2 %	0.4 %	226.2 %	1.0 %	95.9 %	512.0 %	78.1 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0017 ppm	100.7386 %	100.3477 %	102.2602 %	101.7456 %	99.1387 %	100.8981 %
Concentration per Run 1	0.0017 ppm	100.9237 %	100.2753 %	102.1511 %	102.8056 %	98.8688 %	100.9999 %
Concentration per Run 2	0.0017 ppm	100.0550 %	100.5795 %	102.0550 %	101.5579 %	99.1079 %	100.0888 %
Concentration per Run 3	0.0017 ppm	101.2372 %	100.1881 %	102.5745 %	100.8734 %	99.4394 %	101.6055 %
Concentration RSD	0.7 %	0.6 %	0.2 %	0.3 %	1.0 %	0.3 %	0.8 %

ICP DataTrace 4

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LabBook: WG1973931_09192024T4.imexp

Sample: WG1974186-19 WG1974186
 Analysis started at: 9/20/2024 2:57:42 PM
 Comments: <Comment>
 Rack: 1
 Vial: 37

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0501 ppm	1.9375 ppm	0.1217 ppm	1.0118 ppm	1.9247 ppm	0.0486 ppm	26.6976 ppm
Concentration per Run 1	0.0504 ppm	1.9085 ppm	0.1222 ppm	1.0127 ppm	1.9175 ppm	0.0478 ppm	26.3846 ppm
Concentration per Run 2	0.0500 ppm	1.9421 ppm	0.1216 ppm	1.0109 ppm	1.9155 ppm	0.0486 ppm	26.7907 ppm
Concentration per Run 3	0.0500 ppm	1.9620 ppm	0.1212 ppm	1.0118 ppm	1.9412 ppm	0.0492 ppm	26.9176 ppm
Concentration RSD	0.4 %	1.4 %	0.4 %	0.1 %	0.7 %	1.5 %	1.0 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0514 ppm	0.4815 ppm	0.1922 ppm	0.2448 ppm	1.0373 ppm	12.4241 ppm	-0.0013 ppm
Concentration per Run 1	0.0514 ppm	0.4807 ppm	0.1914 ppm	0.2450 ppm	1.0223 ppm	12.3200 ppm	-0.0013 ppm
Concentration per Run 2	0.0515 ppm	0.4827 ppm	0.1927 ppm	0.2454 ppm	1.0373 ppm	12.3931 ppm	-0.0010 ppm
Concentration per Run 3	0.0512 ppm	0.4812 ppm	0.1926 ppm	0.2440 ppm	1.0523 ppm	12.5593 ppm	-0.0015 ppm
Concentration RSD	0.3 %	0.2 %	0.4 %	0.3 %	1.4 %	1.0 %	20.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	13.0051 ppm	0.5304 ppm	0.9859 ppm	12.6880 ppm	0.4919 ppm	0.5352 ppm	0.4971 ppm
Concentration per Run 1	12.9693 ppm	0.5251 ppm	0.9849 ppm	12.5232 ppm	0.4914 ppm	0.5349 ppm	0.4980 ppm
Concentration per Run 2	13.0041 ppm	0.5314 ppm	0.9868 ppm	12.6482 ppm	0.4930 ppm	0.5356 ppm	0.4971 ppm
Concentration per Run 3	13.0419 ppm	0.5348 ppm	0.9859 ppm	12.8926 ppm	0.4912 ppm	0.5351 ppm	0.4961 ppm
Concentration RSD	0.3 %	0.9 %	0.1 %	1.5 %	0.2 %	0.1 %	0.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1257 ppm	5.5001 ppm	0.9740 ppm	0.9890 ppm	1.0071 ppm	0.1209 ppm	0.4775 ppm
Concentration per Run 1	0.1247 ppm	5.5047 ppm	0.9733 ppm	0.9774 ppm	1.0040 ppm	0.1213 ppm	0.4759 ppm
Concentration per Run 2	0.1258 ppm	5.4972 ppm	0.9760 ppm	0.9899 ppm	1.0100 ppm	0.1210 ppm	0.4785 ppm
Concentration per Run 3	0.1266 ppm	5.4984 ppm	0.9728 ppm	0.9998 ppm	1.0073 ppm	0.1205 ppm	0.4780 ppm
Concentration RSD	0.8 %	0.1 %	0.2 %	1.1 %	0.3 %	0.3 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.4857 ppm	100.9566 %	99.6181 %	101.4746 %	102.5707 %	96.3582 %	100.4446 %
Concentration per Run 1	0.4849 ppm	100.8557 %	99.5985 %	101.5855 %	103.4197 %	96.5892 %	100.5787 %
Concentration per Run 2	0.4871 ppm	100.5724 %	99.7001 %	101.4518 %	102.1216 %	96.2624 %	100.2963 %
Concentration per Run 3	0.4851 ppm	101.4416 %	99.5558 %	101.3865 %	102.1709 %	96.2231 %	100.4588 %
Concentration RSD	0.2 %	0.4 %	0.1 %	0.1 %	0.7 %	0.2 %	0.1 %

ICP DataTrace 4

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LabBook: WG1973931_09192024T4.imexp

Sample: WG1974186-20 WG1974186
 Analysis started at: 9/20/2024 3:03:52 PM
 Comments: <Comment>
 Rack: 1
 Vial: 38

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0524 ppm	2.0382 ppm	0.1243 ppm	1.0392 ppm	2.0286 ppm	0.0510 ppm	28.0085 ppm
Concentration per Run 1	0.0522 ppm	2.0239 ppm	0.1250 ppm	1.0371 ppm	2.0005 ppm	0.0507 ppm	27.8638 ppm
Concentration per Run 2	0.0525 ppm	2.0471 ppm	0.1238 ppm	1.0407 ppm	2.0278 ppm	0.0509 ppm	27.9866 ppm
Concentration per Run 3	0.0524 ppm	2.0435 ppm	0.1242 ppm	1.0399 ppm	2.0573 ppm	0.0513 ppm	28.1752 ppm
Concentration RSD	0.3 %	0.6 %	0.5 %	0.2 %	1.4 %	0.6 %	0.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0534 ppm	0.5014 ppm	0.2015 ppm	0.2559 ppm	1.0925 ppm	12.7439 ppm	-0.0013 ppm
Concentration per Run 1	0.0535 ppm	0.5018 ppm	0.2021 ppm	0.2552 ppm	1.0869 ppm	12.6058 ppm	-0.0012 ppm
Concentration per Run 2	0.0535 ppm	0.5012 ppm	0.2007 ppm	0.2561 ppm	1.0917 ppm	12.9263 ppm	-0.0010 ppm
Concentration per Run 3	0.0533 ppm	0.5012 ppm	0.2018 ppm	0.2563 ppm	1.0988 ppm	12.6995 ppm	-0.0015 ppm
Concentration RSD	0.2 %	0.1 %	0.4 %	0.2 %	0.5 %	1.3 %	19.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	13.4339 ppm	0.5562 ppm	1.0138 ppm	13.1217 ppm	0.5111 ppm	0.5493 ppm	0.5197 ppm
Concentration per Run 1	13.4377 ppm	0.5525 ppm	1.0131 ppm	12.9745 ppm	0.5114 ppm	0.5508 ppm	0.5176 ppm
Concentration per Run 2	13.4477 ppm	0.5551 ppm	1.0140 ppm	13.3123 ppm	0.5110 ppm	0.5484 ppm	0.5201 ppm
Concentration per Run 3	13.4162 ppm	0.5611 ppm	1.0142 ppm	13.0785 ppm	0.5109 ppm	0.5489 ppm	0.5213 ppm
Concentration RSD	0.1 %	0.8 %	0.1 %	1.3 %	0.1 %	0.2 %	0.4 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1301 ppm	5.7358 ppm	1.0024 ppm	1.0240 ppm	1.0448 ppm	0.1240 ppm	0.5026 ppm
Concentration per Run 1	0.1306 ppm	5.7336 ppm	1.0028 ppm	1.0140 ppm	1.0439 ppm	0.1236 ppm	0.5020 ppm
Concentration per Run 2	0.1301 ppm	5.7373 ppm	1.0012 ppm	1.0306 ppm	1.0435 ppm	0.1239 ppm	0.5021 ppm
Concentration per Run 3	0.1295 ppm	5.7364 ppm	1.0034 ppm	1.0273 ppm	1.0469 ppm	0.1245 ppm	0.5038 ppm
Concentration RSD	0.4 %	0.0 %	0.1 %	0.9 %	0.2 %	0.3 %	0.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5056 ppm	99.9768 %	99.1062 %	100.3584 %	100.9095 %	95.4149 %	98.9561 %
Concentration per Run 1	0.5063 ppm	99.6766 %	98.9868 %	100.3436 %	101.3566 %	95.2381 %	99.0601 %
Concentration per Run 2	0.5060 ppm	100.8081 %	99.0335 %	100.2998 %	101.4249 %	95.6288 %	98.9436 %
Concentration per Run 3	0.5045 ppm	99.4458 %	99.2982 %	100.4318 %	99.9470 %	95.3777 %	98.8645 %
Concentration RSD	0.2 %	0.7 %	0.2 %	0.1 %	0.8 %	0.2 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1974186-21 WG1974186
 Analysis started at: 9/20/2024 3:10:01 PM
 Comments: <Comment>
 Rack: 1
 Vial: 39

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0500 ppm	2.0344 ppm	0.1211 ppm	1.0136 ppm	2.0141 ppm	0.0510 ppm	26.9857 ppm
Concentration per Run 1	0.0501 ppm	2.0248 ppm	0.1229 ppm	1.0171 ppm	1.9980 ppm	0.0510 ppm	26.8372 ppm
Concentration per Run 2	0.0499 ppm	2.0421 ppm	0.1201 ppm	1.0113 ppm	2.0310 ppm	0.0511 ppm	27.0871 ppm
Concentration per Run 3	0.0499 ppm	2.0362 ppm	0.1202 ppm	1.0123 ppm	2.0134 ppm	0.0510 ppm	27.0329 ppm
Concentration RSD	0.3 %	0.4 %	1.3 %	0.3 %	0.8 %	0.1 %	0.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0522 ppm	0.4888 ppm	0.1963 ppm	0.2523 ppm	1.0855 ppm	12.5185 ppm	-0.0005 ppm
Concentration per Run 1	0.0524 ppm	0.4901 ppm	0.1960 ppm	0.2532 ppm	1.0820 ppm	12.5046 ppm	-0.0008 ppm
Concentration per Run 2	0.0523 ppm	0.4883 ppm	0.1962 ppm	0.2508 ppm	1.0923 ppm	12.4985 ppm	-0.0008 ppm
Concentration per Run 3	0.0520 ppm	0.4880 ppm	0.1969 ppm	0.2529 ppm	1.0823 ppm	12.5523 ppm	0.0002 ppm
Concentration RSD	0.4 %	0.2 %	0.2 %	0.5 %	0.5 %	0.2 %	128.8 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	13.1699 ppm	0.5539 ppm	0.9843 ppm	12.8960 ppm	0.4965 ppm	0.5335 ppm	0.5007 ppm
Concentration per Run 1	13.2149 ppm	0.5525 ppm	0.9867 ppm	12.8935 ppm	0.4972 ppm	0.5337 ppm	0.5009 ppm
Concentration per Run 2	13.1582 ppm	0.5542 ppm	0.9826 ppm	12.9069 ppm	0.4968 ppm	0.5337 ppm	0.5020 ppm
Concentration per Run 3	13.1368 ppm	0.5552 ppm	0.9836 ppm	12.8877 ppm	0.4956 ppm	0.5331 ppm	0.4991 ppm
Concentration RSD	0.3 %	0.2 %	0.2 %	0.1 %	0.2 %	0.1 %	0.3 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.1245 ppm	5.2736 ppm	0.9926 ppm	1.0211 ppm	1.0198 ppm	0.1216 ppm	0.4914 ppm
Concentration per Run 1	0.1237 ppm	5.2859 ppm	0.9943 ppm	1.0184 ppm	1.0211 ppm	0.1225 ppm	0.4918 ppm
Concentration per Run 2	0.1243 ppm	5.2655 ppm	0.9919 ppm	1.0229 ppm	1.0159 ppm	0.1208 ppm	0.4896 ppm
Concentration per Run 3	0.1256 ppm	5.2693 ppm	0.9916 ppm	1.0220 ppm	1.0225 ppm	0.1214 ppm	0.4929 ppm
Concentration RSD	0.8 %	0.2 %	0.2 %	0.2 %	0.3 %	0.7 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.4940 ppm	99.2341 %	99.1447 %	100.7415 %	100.3550 %	96.3276 %	98.8815 %
Concentration per Run 1	0.4944 ppm	99.3575 %	98.8888 %	100.4194 %	101.2253 %	95.7758 %	98.6193 %
Concentration per Run 2	0.4939 ppm	98.9661 %	99.0385 %	100.8961 %	99.8941 %	96.6030 %	99.1674 %
Concentration per Run 3	0.4936 ppm	99.3788 %	99.5067 %	100.9091 %	99.9455 %	96.6040 %	98.8579 %
Concentration RSD	0.1 %	0.2 %	0.3 %	0.3 %	0.8 %	0.5 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: WG1974186-22D5 WG1974186
 Analysis started at: 9/20/2024 3:16:11 PM
 Comments: <Comment>
 Rack: 1
 Vial: 40

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0043 ppm	-0.0004 ppm	0.0045 ppm	0.0040 ppm	0.0000 ppm	3.2049 ppm
Concentration per Run 1	0.0000 ppm	0.0025 ppm	-0.0007 ppm	0.0047 ppm	0.0040 ppm	0.0000 ppm	3.1830 ppm
Concentration per Run 2	-0.0003 ppm	0.0034 ppm	0.0000 ppm	0.0044 ppm	0.0039 ppm	0.0000 ppm	3.1978 ppm
Concentration per Run 3	0.0000 ppm	0.0070 ppm	-0.0005 ppm	0.0045 ppm	0.0040 ppm	0.0000 ppm	3.2339 ppm
Concentration RSD	164.6 %	56.5 %	103.4 %	4.3 %	1.2 %	523.9 %	0.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	0.0001 ppm	0.0000 ppm	0.0140 ppm	0.2964 ppm	-0.0004 ppm
Concentration per Run 1	0.0000 ppm	0.0001 ppm	0.0000 ppm	-0.0001 ppm	0.0146 ppm	0.2845 ppm	0.0005 ppm
Concentration per Run 2	0.0000 ppm	0.0002 ppm	0.0000 ppm	-0.0001 ppm	0.0131 ppm	0.2881 ppm	-0.0004 ppm
Concentration per Run 3	0.0000 ppm	-0.0001 ppm	0.0001 ppm	0.0000 ppm	0.0142 ppm	0.3165 ppm	-0.0014 ppm
Concentration RSD	56.8 %	138.6 %	132.1 %	186.1 %	5.6 %	5.9 %	225.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.6077 ppm	0.0092 ppm	0.0012 ppm	0.4222 ppm	-0.0003 ppm	0.0000 ppm	0.0015 ppm
Concentration per Run 1	0.6038 ppm	0.0091 ppm	0.0014 ppm	0.4198 ppm	-0.0005 ppm	0.0003 ppm	0.0015 ppm
Concentration per Run 2	0.6044 ppm	0.0093 ppm	0.0012 ppm	0.4230 ppm	-0.0003 ppm	-0.0005 ppm	0.0016 ppm
Concentration per Run 3	0.6148 ppm	0.0093 ppm	0.0010 ppm	0.4239 ppm	-0.0001 ppm	0.0001 ppm	0.0013 ppm
Concentration RSD	1.0 %	0.8 %	15.9 %	0.5 %	86.6 %	2,202.1 %	9.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0002 ppm	0.8931 ppm	0.0011 ppm	0.0095 ppm	0.0001 ppm	-0.0003 ppm	0.0002 ppm
Concentration per Run 1	0.0013 ppm	0.8826 ppm	0.0010 ppm	0.0094 ppm	0.0002 ppm	-0.0003 ppm	0.0004 ppm
Concentration per Run 2	-0.0004 ppm	0.8952 ppm	0.0012 ppm	0.0094 ppm	0.0001 ppm	-0.0007 ppm	0.0001 ppm
Concentration per Run 3	-0.0002 ppm	0.9016 ppm	0.0010 ppm	0.0095 ppm	-0.0001 ppm	0.0001 ppm	0.0000 ppm
Concentration RSD	376.7 %	1.1 %	9.2 %	0.6 %	183.4 %	150.6 %	101.7 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0008 ppm	100.6709 %	101.7762 %	103.4342 %	101.7862 %	102.8173 %	102.3486 %
Concentration per Run 1	0.0007 ppm	100.6329 %	101.9377 %	103.4565 %	102.2952 %	103.0263 %	101.9503 %
Concentration per Run 2	0.0008 ppm	100.6437 %	101.7041 %	103.6935 %	101.8838 %	103.0736 %	102.2270 %
Concentration per Run 3	0.0007 ppm	100.7360 %	101.6869 %	103.1527 %	101.1795 %	102.3520 %	102.8684 %
Concentration RSD	6.6 %	0.1 %	0.1 %	0.3 %	0.6 %	0.4 %	0.5 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCV
 Analysis started at: 9/20/2024 3:22:32 PM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.4989 ppm	0.5001 ppm	0.4917 ppm	0.5015 ppm	0.4871 ppm	0.4979 ppm	0.4927 ppm
Concentration per Run 1	0.4989 ppm	0.4931 ppm	0.4904 ppm	0.5008 ppm	0.4784 ppm	0.4875 ppm	0.4802 ppm
Concentration per Run 2	0.4982 ppm	0.5022 ppm	0.4929 ppm	0.5012 ppm	0.4915 ppm	0.5045 ppm	0.4964 ppm
Concentration per Run 3	0.4996 ppm	0.5052 ppm	0.4918 ppm	0.5025 ppm	0.4913 ppm	0.5018 ppm	0.5014 ppm
Recovery Percentage 1	99.777 %	100.029 %	98.338 %	100.299 %	97.411 %	99.588 %	98.532 %
Concentration RSD	0.1 %	1.3 %	0.3 %	0.2 %	1.5 %	1.8 %	2.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.4933 ppm	0.5034 ppm	0.4888 ppm	0.4780 ppm	0.5248 ppm	5.1854 ppm	0.4877 ppm
Concentration per Run 1	0.4929 ppm	0.5033 ppm	0.4886 ppm	0.4785 ppm	0.5135 ppm	5.1177 ppm	0.4805 ppm
Concentration per Run 2	0.4940 ppm	0.5035 ppm	0.4907 ppm	0.4766 ppm	0.5324 ppm	5.2364 ppm	0.4899 ppm
Concentration per Run 3	0.4930 ppm	0.5034 ppm	0.4872 ppm	0.4789 ppm	0.5285 ppm	5.2023 ppm	0.4927 ppm
Recovery Percentage 1	98.662 %	100.682 %	97.766 %	95.600 %	104.962 %	103.709 %	97.540 %
Concentration RSD	0.1 %	0.0 %	0.4 %	0.3 %	1.9 %	1.2 %	1.3 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.4924 ppm	0.4855 ppm	0.4853 ppm	9.8141 ppm	0.5051 ppm	0.5097 ppm	0.5055 ppm
Concentration per Run 1	0.4910 ppm	0.4771 ppm	0.4851 ppm	9.6540 ppm	0.5055 ppm	0.5085 ppm	0.5050 ppm
Concentration per Run 2	0.4933 ppm	0.4907 ppm	0.4854 ppm	9.9029 ppm	0.5048 ppm	0.5105 ppm	0.5054 ppm
Concentration per Run 3	0.4929 ppm	0.4889 ppm	0.4852 ppm	9.8855 ppm	0.5051 ppm	0.5100 ppm	0.5063 ppm
Recovery Percentage 1	98.481 %	97.108 %	97.053 %	98.141 %	101.030 %	101.932 %	101.109 %
Concentration RSD	0.3 %	1.5 %	0.0 %	1.4 %	0.1 %	0.2 %	0.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.5108 ppm	5.5487 ppm	0.4762 ppm	0.4616 ppm	0.4952 ppm	0.5181 ppm	0.4847 ppm
Concentration per Run 1	0.5114 ppm	5.5514 ppm	0.4752 ppm	0.4533 ppm	0.4951 ppm	0.5187 ppm	0.4860 ppm
Concentration per Run 2	0.5103 ppm	5.5459 ppm	0.4764 ppm	0.4658 ppm	0.4959 ppm	0.5176 ppm	0.4856 ppm
Concentration per Run 3	0.5106 ppm	5.5488 ppm	0.4769 ppm	0.4656 ppm	0.4946 ppm	0.5180 ppm	0.4826 ppm
Recovery Percentage 1	102.153 %	105.689 %	95.237 %	92.312 %	99.043 %	103.623 %	96.943 %
Concentration RSD	0.1 %	0.0 %	0.2 %	1.5 %	0.1 %	0.1 %	0.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5229 ppm	99.7124 %	100.1896 %	102.1146 %	100.1051 %	99.9294 %	100.2629 %
Concentration per Run 1	0.5231 ppm	100.0102 %	100.2284 %	101.9808 %	101.7498 %	99.4607 %	100.1373 %
Concentration per Run 2	0.5234 ppm	99.3846 %	100.1851 %	102.2100 %	98.8556 %	100.0292 %	100.3341 %
Concentration per Run 3	0.5222 ppm	99.7425 %	100.1553 %	102.1530 %	99.7098 %	100.2983 %	100.3173 %
Recovery Percentage 1	104.582 %						
Concentration RSD	0.1 %	0.3 %	0.0 %	0.1 %	1.5 %	0.4 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCB
Analysis started at: 9/20/2024 3:28:35 PM
Comments: <Comment>
Rack: 0
Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0001 ppm	0.0079 ppm	-0.0002 ppm	0.0011 ppm	0.0000 ppm	0.0000 ppm	-0.0004 ppm
Concentration per Run 1	0.0003 ppm	0.0120 ppm	0.0008 ppm	0.0012 ppm	0.0000 ppm	0.0000 ppm	0.0004 ppm
Concentration per Run 2	-0.0002 ppm	0.0064 ppm	0.0000 ppm	0.0010 ppm	0.0000 ppm	0.0000 ppm	0.0017 ppm
Concentration per Run 3	0.0001 ppm	0.0052 ppm	-0.0015 ppm	0.0010 ppm	0.0001 ppm	0.0000 ppm	-0.0033 ppm
Recovery Percentage 1	0.883 %	7.875 %	-4.981 %	3.669 %	0.341 %	-0.035 %	-0.399 %
Concentration RSD	346.4 %	46.2 %	460.9 %	9.2 %	69.8 %	767.6 %	639.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0001 ppm	0.0000 ppm	0.0018 ppm	-0.0217 ppm	-0.0004 ppm
Concentration per Run 1	0.0000 ppm	0.0000 ppm	0.0001 ppm	0.0000 ppm	0.0011 ppm	-0.0123 ppm	-0.0001 ppm
Concentration per Run 2	0.0000 ppm	-0.0001 ppm	0.0002 ppm	0.0000 ppm	0.0027 ppm	0.0046 ppm	0.0000 ppm
Concentration per Run 3	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0015 ppm	-0.0575 ppm	-0.0012 ppm
Recovery Percentage 1	-0.368 %	-0.092 %	0.598 %	0.244 %	3.563 %	-0.870 %	-4.396 %
Concentration RSD	165.9 %	226.5 %	166.0 %	51.5 %	46.5 %	147.6 %	159.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0012 ppm	0.0000 ppm	0.0004 ppm	0.0082 ppm	-0.0002 ppm	0.0001 ppm	0.0006 ppm
Concentration per Run 1	-0.0012 ppm	0.0000 ppm	0.0004 ppm	0.0103 ppm	-0.0001 ppm	0.0007 ppm	0.0007 ppm
Concentration per Run 2	-0.0023 ppm	0.0000 ppm	0.0003 ppm	0.0076 ppm	-0.0003 ppm	-0.0004 ppm	0.0010 ppm
Concentration per Run 3	0.0000 ppm	0.0000 ppm	0.0004 ppm	0.0067 ppm	-0.0003 ppm	0.0000 ppm	0.0002 ppm
Recovery Percentage 1	-1.163 %	0.087 %	0.758 %	0.410 %	-0.922 %	0.746 %	1.252 %
Concentration RSD	97.0 %	179.4 %	21.6 %	23.3 %	51.9 %	726.2 %	61.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0014 ppm	-0.0010 ppm	0.0004 ppm	0.0000 ppm	0.0000 ppm	-0.0002 ppm	-0.0001 ppm
Concentration per Run 1	0.0008 ppm	-0.0011 ppm	0.0004 ppm	0.0000 ppm	-0.0001 ppm	-0.0001 ppm	-0.0002 ppm
Concentration per Run 2	0.0018 ppm	-0.0007 ppm	0.0004 ppm	0.0000 ppm	0.0001 ppm	0.0006 ppm	-0.0002 ppm
Concentration per Run 3	0.0015 ppm	-0.0010 ppm	0.0003 ppm	0.0000 ppm	-0.0001 ppm	-0.0012 ppm	0.0000 ppm
Recovery Percentage 1	13.565 %	-0.191 %	0.717 %	0.049 %	-0.435 %	-1.128 %	-1.354 %
Concentration RSD	40.2 %	20.4 %	10.5 %	420.6 %	346.8 %	410.2 %	62.1 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0003 ppm	98.3490 %	99.7486 %	101.0234 %	98.7327 %	100.7355 %	99.3500 %
Concentration per Run 1	0.0003 ppm	99.0120 %	99.8027 %	101.2717 %	100.4732 %	100.9862 %	99.6544 %
Concentration per Run 2	0.0004 ppm	98.4293 %	99.4462 %	100.8752 %	97.9810 %	100.6226 %	99.1055 %
Concentration per Run 3	0.0002 ppm	97.6058 %	99.9967 %	100.9233 %	97.7440 %	100.5978 %	99.2901 %
Recovery Percentage 1	6.290 %						
Concentration RSD	22.1 %	0.7 %	0.3 %	0.2 %	1.5 %	0.2 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: L2453053-05 WG1974186
 Analysis started at: 9/20/2024 3:39:59 PM
 Comments: <Comment>
 Rack: 1
 Vial: 44

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0031 ppm	0.0010 ppm	0.0311 ppm	0.0233 ppm	0.0000 ppm	10.1542 ppm
Concentration per Run 1	0.0002 ppm	0.0045 ppm	0.0005 ppm	0.0315 ppm	0.0232 ppm	0.0000 ppm	10.1415 ppm
Concentration per Run 2	-0.0003 ppm	0.0025 ppm	0.0013 ppm	0.0309 ppm	0.0234 ppm	0.0000 ppm	10.1479 ppm
Concentration per Run 3	0.0000 ppm	0.0023 ppm	0.0012 ppm	0.0310 ppm	0.0234 ppm	0.0000 ppm	10.1732 ppm
Concentration RSD	801.5 %	38.6 %	43.4 %	0.9 %	0.4 %	20.6 %	0.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0069 ppm	-0.0006 ppm	0.0006 ppm	2.5546 ppm	0.9454 ppm	0.0000 ppm
Concentration per Run 1	0.0000 ppm	0.0067 ppm	-0.0009 ppm	0.0007 ppm	2.5524 ppm	0.9286 ppm	0.0007 ppm
Concentration per Run 2	0.0000 ppm	0.0069 ppm	-0.0005 ppm	0.0004 ppm	2.5477 ppm	0.9496 ppm	-0.0002 ppm
Concentration per Run 3	-0.0001 ppm	0.0069 ppm	-0.0005 ppm	0.0006 ppm	2.5639 ppm	0.9579 ppm	-0.0006 ppm
Concentration RSD	47.0 %	1.7 %	32.6 %	24.3 %	0.3 %	1.6 %	5,407.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	4.5249 ppm	0.1045 ppm	0.0001 ppm	7.9691 ppm	0.0013 ppm	-0.0017 ppm	0.0002 ppm
Concentration per Run 1	4.5256 ppm	0.1041 ppm	0.0003 ppm	7.9443 ppm	0.0015 ppm	-0.0015 ppm	-0.0003 ppm
Concentration per Run 2	4.5387 ppm	0.1044 ppm	0.0001 ppm	7.9567 ppm	0.0013 ppm	-0.0015 ppm	0.0004 ppm
Concentration per Run 3	4.5105 ppm	0.1049 ppm	0.0001 ppm	8.0064 ppm	0.0011 ppm	-0.0021 ppm	0.0005 ppm
Concentration RSD	0.3 %	0.4 %	76.4 %	0.4 %	16.8 %	19.1 %	192.5 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0009 ppm	7.7620 ppm	-0.0004 ppm	0.0375 ppm	0.0000 ppm	-0.0004 ppm	-0.0001 ppm
Concentration per Run 1	-0.0004 ppm	7.7634 ppm	-0.0003 ppm	0.0373 ppm	0.0001 ppm	-0.0006 ppm	-0.0001 ppm
Concentration per Run 2	0.0030 ppm	7.7599 ppm	-0.0006 ppm	0.0375 ppm	0.0000 ppm	-0.0004 ppm	-0.0001 ppm
Concentration per Run 3	0.0001 ppm	7.7626 ppm	-0.0002 ppm	0.0376 ppm	-0.0001 ppm	-0.0002 ppm	-0.0002 ppm
Concentration RSD	198.9 %	0.0 %	50.3 %	0.4 %	2,804.6 %	56.1 %	40.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0071 ppm	99.9689 %	99.8228 %	101.0300 %	101.4012 %	100.1640 %	100.1500 %
Concentration per Run 1	0.0071 ppm	100.0781 %	99.8719 %	100.9990 %	101.5923 %	100.3624 %	100.2228 %
Concentration per Run 2	0.0071 ppm	100.1573 %	99.8607 %	100.9860 %	101.9012 %	100.1169 %	100.1168 %
Concentration per Run 3	0.0071 ppm	99.6714 %	99.7359 %	101.1049 %	100.7101 %	100.0128 %	100.1103 %
Concentration RSD	0.4 %	0.3 %	0.1 %	0.1 %	0.6 %	0.2 %	0.1 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCV
 Analysis started at: 9/20/2024 3:49:02 PM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5028 ppm	0.4945 ppm	0.4896 ppm	0.5003 ppm	0.4864 ppm	0.4949 ppm	0.4905 ppm
Concentration per Run 1	0.5030 ppm	0.4811 ppm	0.4878 ppm	0.4996 ppm	0.4780 ppm	0.4845 ppm	0.4807 ppm
Concentration per Run 2	0.5028 ppm	0.5006 ppm	0.4910 ppm	0.5006 ppm	0.4913 ppm	0.5013 ppm	0.4979 ppm
Concentration per Run 3	0.5026 ppm	0.5017 ppm	0.4900 ppm	0.5006 ppm	0.4898 ppm	0.4990 ppm	0.4930 ppm
Recovery Percentage 1	100.559 %	98.892 %	97.912 %	100.052 %	97.276 %	98.982 %	98.109 %
Concentration RSD	0.0 %	2.3 %	0.3 %	0.1 %	1.5 %	1.8 %	1.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.4938 ppm	0.5033 ppm	0.4849 ppm	0.4784 ppm	0.5210 ppm	5.1423 ppm	0.4866 ppm
Concentration per Run 1	0.4931 ppm	0.5027 ppm	0.4862 ppm	0.4773 ppm	0.5109 ppm	5.0447 ppm	0.4778 ppm
Concentration per Run 2	0.4954 ppm	0.5044 ppm	0.4861 ppm	0.4792 ppm	0.5270 ppm	5.1972 ppm	0.4903 ppm
Concentration per Run 3	0.4930 ppm	0.5027 ppm	0.4823 ppm	0.4789 ppm	0.5252 ppm	5.1850 ppm	0.4918 ppm
Recovery Percentage 1	98.764 %	100.654 %	96.973 %	95.688 %	104.210 %	102.846 %	97.326 %
Concentration RSD	0.3 %	0.2 %	0.5 %	0.2 %	1.7 %	1.6 %	1.6 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.4981 ppm	0.4845 ppm	0.4842 ppm	9.7220 ppm	0.5025 ppm	0.5077 ppm	0.5042 ppm
Concentration per Run 1	0.4983 ppm	0.4737 ppm	0.4843 ppm	9.5549 ppm	0.5021 ppm	0.5073 ppm	0.5041 ppm
Concentration per Run 2	0.5015 ppm	0.4903 ppm	0.4848 ppm	9.8241 ppm	0.5041 ppm	0.5087 ppm	0.5040 ppm
Concentration per Run 3	0.4945 ppm	0.4895 ppm	0.4834 ppm	9.7871 ppm	0.5012 ppm	0.5072 ppm	0.5044 ppm
Recovery Percentage 1	99.616 %	96.899 %	96.836 %	97.220 %	100.499 %	101.548 %	100.834 %
Concentration RSD	0.7 %	1.9 %	0.1 %	1.5 %	0.3 %	0.2 %	0.0 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.5080 ppm	5.5310 ppm	0.4757 ppm	0.4608 ppm	0.4900 ppm	0.5173 ppm	0.4807 ppm
Concentration per Run 1	0.5088 ppm	5.5297 ppm	0.4743 ppm	0.4523 ppm	0.4916 ppm	0.5170 ppm	0.4824 ppm
Concentration per Run 2	0.5063 ppm	5.5324 ppm	0.4777 ppm	0.4651 ppm	0.4903 ppm	0.5179 ppm	0.4802 ppm
Concentration per Run 3	0.5090 ppm	5.5308 ppm	0.4751 ppm	0.4649 ppm	0.4881 ppm	0.5169 ppm	0.4794 ppm
Recovery Percentage 1	101.609 %	105.352 %	95.139 %	92.153 %	97.998 %	103.451 %	96.131 %
Concentration RSD	0.3 %	0.0 %	0.4 %	1.6 %	0.4 %	0.1 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5225 ppm	99.4361 %	100.0819 %	102.5734 %	100.0639 %	100.5081 %	100.6750 %
Concentration per Run 1	0.5215 ppm	100.8201 %	100.1961 %	102.5783 %	103.0139 %	100.2160 %	100.5951 %
Concentration per Run 2	0.5242 ppm	98.6411 %	100.0704 %	102.4443 %	98.3355 %	100.5356 %	100.4946 %
Concentration per Run 3	0.5217 ppm	98.8471 %	99.9792 %	102.6975 %	98.8423 %	100.7728 %	100.9353 %
Recovery Percentage 1	104.491 %						
Concentration RSD	0.3 %	1.2 %	0.1 %	0.1 %	2.6 %	0.3 %	0.2 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: CCB
 Analysis started at: 9/20/2024 3:55:05 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0069 ppm	0.0003 ppm	0.0005 ppm	0.0000 ppm	0.0000 ppm	0.0002 ppm
Concentration per Run 1	0.0001 ppm	0.0055 ppm	0.0003 ppm	0.0002 ppm	0.0000 ppm	0.0000 ppm	-0.0001 ppm
Concentration per Run 2	-0.0001 ppm	0.0075 ppm	0.0002 ppm	0.0005 ppm	0.0000 ppm	0.0000 ppm	-0.0019 ppm
Concentration per Run 3	-0.0002 ppm	0.0077 ppm	0.0005 ppm	0.0006 ppm	0.0000 ppm	0.0000 ppm	0.0025 ppm
Recovery Percentage 1	-1.068 %	6.925 %	6.397 %	1.507 %	0.041 %	0.288 %	0.176 %
Concentration RSD	234.4 %	17.6 %	38.6 %	41.3 %	339.8 %	58.6 %	1,259.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0001 ppm	0.0000 ppm	0.0018 ppm	-0.0062 ppm	-0.0007 ppm
Concentration per Run 1	0.0001 ppm	-0.0001 ppm	0.0003 ppm	0.0000 ppm	0.0018 ppm	-0.0092 ppm	-0.0001 ppm
Concentration per Run 2	0.0000 ppm	0.0000 ppm	0.0004 ppm	0.0000 ppm	0.0022 ppm	0.0002 ppm	-0.0005 ppm
Concentration per Run 3	0.0000 ppm	0.0001 ppm	-0.0002 ppm	0.0000 ppm	0.0014 ppm	-0.0096 ppm	-0.0014 ppm
Recovery Percentage 1	0.248 %	-0.100 %	1.485 %	-0.004 %	3.575 %	-0.248 %	-6.767 %
Concentration RSD	417.7 %	415.8 %	227.6 %	8,453.8 %	23.5 %	89.2 %	95.3 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0015 ppm	0.0001 ppm	0.0004 ppm	0.0073 ppm	-0.0004 ppm	0.0003 ppm	0.0005 ppm
Concentration per Run 1	0.0015 ppm	0.0001 ppm	0.0004 ppm	0.0076 ppm	-0.0006 ppm	0.0007 ppm	0.0008 ppm
Concentration per Run 2	0.0020 ppm	0.0000 ppm	0.0005 ppm	0.0107 ppm	-0.0004 ppm	0.0001 ppm	0.0003 ppm
Concentration per Run 3	0.0011 ppm	0.0001 ppm	0.0003 ppm	0.0037 ppm	-0.0002 ppm	0.0002 ppm	0.0005 ppm
Recovery Percentage 1	1.506 %	0.525 %	0.774 %	0.367 %	-1.572 %	3.319 %	1.068 %
Concentration RSD	31.1 %	71.2 %	38.0 %	47.8 %	58.8 %	94.5 %	44.3 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0013 ppm	-0.0009 ppm	0.0004 ppm	0.0000 ppm	-0.0001 ppm	0.0000 ppm	-0.0002 ppm
Concentration per Run 1	0.0003 ppm	-0.0008 ppm	0.0001 ppm	0.0000 ppm	0.0001 ppm	-0.0005 ppm	-0.0003 ppm
Concentration per Run 2	0.0012 ppm	-0.0012 ppm	0.0005 ppm	0.0000 ppm	-0.0004 ppm	0.0007 ppm	-0.0001 ppm
Concentration per Run 3	0.0023 ppm	-0.0006 ppm	0.0005 ppm	0.0000 ppm	0.0000 ppm	-0.0001 ppm	-0.0002 ppm
Recovery Percentage 1	12.624 %	-0.176 %	0.731 %	0.024 %	-1.105 %	0.077 %	-1.872 %
Concentration RSD	77.2 %	35.0 %	58.5 %	1,425.2 %	198.3 %	3,835.5 %	54.9 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0003 ppm	97.1987 %	98.4176 %	102.9449 %	97.5909 %	102.7211 %	97.8317 %
Concentration per Run 1	0.0004 ppm	97.7240 %	98.4255 %	102.3309 %	99.4787 %	102.1921 %	97.9594 %
Concentration per Run 2	0.0004 ppm	96.8397 %	98.4055 %	103.1999 %	96.9006 %	103.0919 %	97.5228 %
Concentration per Run 3	0.0003 ppm	97.0324 %	98.4218 %	103.3039 %	96.3933 %	102.8793 %	98.0128 %
Recovery Percentage 1	6.583 %						
Concentration RSD	15.8 %	0.5 %	0.0 %	0.5 %	1.7 %	0.5 %	0.3 %

ICP DataTrace 4

9/20/2024 4:21:17 PM



LabBook: WG1973931_09192024T4.imexp

Sample: LLOQ
 Analysis started at: 9/20/2024 4:01:31 PM
 Comments: <Comment>
 Rack: 0
 Vial: 5

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0050 ppm	0.1076 ppm	0.0047 ppm	0.0319 ppm	0.0103 ppm	0.0052 ppm	0.1149 ppm
Concentration per Run 1	0.0049 ppm	0.1076 ppm	0.0057 ppm	0.0317 ppm	0.0102 ppm	0.0051 ppm	0.1108 ppm
Concentration per Run 2	0.0052 ppm	0.1080 ppm	0.0046 ppm	0.0319 ppm	0.0103 ppm	0.0052 ppm	0.1195 ppm
Concentration per Run 3	0.0048 ppm	0.1073 ppm	0.0039 ppm	0.0319 ppm	0.0104 ppm	0.0052 ppm	0.1143 ppm
Recovery Percentage 1	99.581 %	107.650 %	94.320 %	106.172 %	102.732 %	103.272 %	114.868 %
Concentration RSD	4.7 %	0.3 %	19.3 %	0.4 %	1.1 %	1.0 %	3.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0042 ppm	0.0210 ppm	0.0096 ppm	0.0103 ppm	0.0722 ppm	2.6650 ppm	0.0095 ppm
Concentration per Run 1	0.0042 ppm	0.0211 ppm	0.0093 ppm	0.0103 ppm	0.0705 ppm	2.6232 ppm	0.0098 ppm
Concentration per Run 2	0.0042 ppm	0.0209 ppm	0.0099 ppm	0.0102 ppm	0.0732 ppm	2.6818 ppm	0.0090 ppm
Concentration per Run 3	0.0042 ppm	0.0210 ppm	0.0095 ppm	0.0104 ppm	0.0730 ppm	2.6899 ppm	0.0098 ppm
Recovery Percentage 1	104.195 %	105.062 %	95.543 %	103.188 %	144.491 %	106.598 %	95.478 %
Concentration RSD	0.2 %	0.5 %	3.1 %	0.8 %	2.1 %	1.4 %	4.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.1072 ppm	0.0109 ppm	0.0510 ppm	2.0695 ppm	0.0200 ppm	0.0105 ppm	0.0530 ppm
Concentration per Run 1	0.1057 ppm	0.0106 ppm	0.0510 ppm	2.0458 ppm	0.0200 ppm	0.0108 ppm	0.0535 ppm
Concentration per Run 2	0.1075 ppm	0.0110 ppm	0.0510 ppm	2.0796 ppm	0.0201 ppm	0.0103 ppm	0.0530 ppm
Concentration per Run 3	0.1084 ppm	0.0110 ppm	0.0509 ppm	2.0830 ppm	0.0200 ppm	0.0105 ppm	0.0526 ppm
Recovery Percentage 1	107.200 %	108.785 %	101.932 %	103.474 %	100.184 %	105.444 %	106.064 %
Concentration RSD	1.3 %	2.4 %	0.1 %	1.0 %	0.3 %	2.7 %	0.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0111 ppm	0.5575 ppm	0.0517 ppm	0.0101 ppm	0.0517 ppm	0.0209 ppm	0.0101 ppm
Concentration per Run 1	0.0116 ppm	0.5575 ppm	0.0512 ppm	0.0099 ppm	0.0519 ppm	0.0218 ppm	0.0102 ppm
Concentration per Run 2	0.0088 ppm	0.5583 ppm	0.0520 ppm	0.0101 ppm	0.0516 ppm	0.0205 ppm	0.0102 ppm
Concentration per Run 3	0.0127 ppm	0.5567 ppm	0.0520 ppm	0.0101 ppm	0.0517 ppm	0.0202 ppm	0.0101 ppm
Recovery Percentage 1	110.505 %	111.504 %	103.489 %	100.556 %	103.447 %	104.270 %	101.378 %
Concentration RSD	17.9 %	0.1 %	0.8 %	1.2 %	0.3 %	4.0 %	0.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0074 ppm	97.0741 %	101.0637 %	103.0210 %	98.5091 %	101.7412 %	101.3376 %
Concentration per Run 1	0.0073 ppm	98.2838 %	101.3546 %	103.0791 %	100.7908 %	101.7199 %	101.5611 %
Concentration per Run 2	0.0074 ppm	95.5831 %	100.7242 %	102.8258 %	97.2734 %	101.4458 %	101.1446 %
Concentration per Run 3	0.0074 ppm	97.3554 %	101.1122 %	103.1580 %	97.4632 %	102.0579 %	101.3070 %
Recovery Percentage 1	147.090 %						
Concentration RSD	0.6 %	1.4 %	0.3 %	0.2 %	2.0 %	0.3 %	0.2 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: Blank CEY Trace4
 Analysis started at: 9/20/2024 5:05:51 PM
 Comments: <Comment>
 Rack: 0
 Vial: 1

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration per Run	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration RSD	-1.6 %	-8.9 %	1.8 %	0.1 %	0.0 %	-1.3 %	0.1 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration per Run	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration RSD	-1.0 %	-0.3 %	0.1 %	0.0 %	0.2 %	0.3 %	-0.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration per Run	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration RSD	0.1 %	0.1 %	0.2 %	-2.8 %	-0.1 %	-0.3 %	-0.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration per Run	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm
Concentration RSD	-1.8 %	0.0 %	0.3 %	-0.2 %	-0.3 %	-0.4 %	-0.1 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0000 ppm	100.0000 %	100.0000 %	100.0000 %	100.0000 %	100.0000 %	100.0000 %
Concentration per Run	0.0000 ppm	100.0000 %	100.0000 %	100.0000 %	100.0000 %	100.0000 %	100.0000 %
Concentration RSD	-0.6 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: ICAL
 Analysis started at: 9/20/2024 5:12:14 PM
 Comments: <Comment>
 Rack: 0
 Vial: 2

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	1.0000 ppm	25.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm	10.0000 ppm
Concentration per Run 1	0.9996 ppm	25.0501 ppm	1.0022 ppm	1.0000 ppm	1.0000 ppm	0.9990 ppm	9.9829 ppm
Concentration per Run 2	0.9996 ppm	24.9649 ppm	1.0010 ppm	1.0030 ppm	0.9976 ppm	0.9997 ppm	10.0189 ppm
Concentration per Run 3	1.0008 ppm	24.9850 ppm	0.9968 ppm	0.9970 ppm	1.0023 ppm	1.0012 ppm	9.9982 ppm
Concentration RSD	0.1 %	0.2 %	0.3 %	0.3 %	0.2 %	0.1 %	0.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	1.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm	25.0000 ppm	35.0000 ppm	1.0000 ppm
Concentration per Run 1	1.0024 ppm	1.0008 ppm	0.9965 ppm	1.0027 ppm	24.9996 ppm	34.9235 ppm	0.9973 ppm
Concentration per Run 2	1.0013 ppm	1.0030 ppm	1.0011 ppm	0.9988 ppm	25.0246 ppm	35.0331 ppm	0.9984 ppm
Concentration per Run 3	0.9963 ppm	0.9962 ppm	1.0024 ppm	0.9986 ppm	24.9758 ppm	35.0434 ppm	1.0042 ppm
Concentration RSD	0.3 %	0.3 %	0.3 %	0.2 %	0.1 %	0.2 %	0.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	10.0000 ppm	1.0000 ppm	1.0000 ppm	25.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm
Concentration per Run 1	9.9821 ppm	0.9981 ppm	1.0005 ppm	25.0344 ppm	1.0012 ppm	1.0015 ppm	0.9995 ppm
Concentration per Run 2	10.0055 ppm	1.0002 ppm	1.0021 ppm	24.9609 ppm	1.0016 ppm	0.9997 ppm	1.0022 ppm
Concentration per Run 3	10.0124 ppm	1.0017 ppm	0.9974 ppm	25.0048 ppm	0.9972 ppm	0.9988 ppm	0.9983 ppm
Concentration RSD	0.2 %	0.2 %	0.2 %	0.1 %	0.2 %	0.1 %	0.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	1.0000 ppm	10.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm	1.0000 ppm
Concentration per Run 1	1.0018 ppm	10.0057 ppm	1.0010 ppm	0.9985 ppm	0.9987 ppm	1.0005 ppm	0.9989 ppm
Concentration per Run 2	1.0014 ppm	10.0200 ppm	1.0026 ppm	0.9993 ppm	0.9999 ppm	1.0026 ppm	1.0008 ppm
Concentration per Run 3	0.9968 ppm	9.9743 ppm	0.9964 ppm	1.0022 ppm	1.0014 ppm	0.9969 ppm	1.0004 ppm
Concentration RSD	0.3 %	0.2 %	0.3 %	0.2 %	0.1 %	0.3 %	0.1 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	1.0000 ppm	98.9549 %	96.0818 %	95.6071 %	98.1776 %	88.9310 %	95.8938 %
Concentration per Run 1	1.0025 ppm	99.8625 %	96.2660 %	95.8436 %	98.3253 %	89.0926 %	95.9595 %
Concentration per Run 2	1.0011 ppm	98.0388 %	96.1197 %	95.3164 %	97.9401 %	88.5471 %	95.9196 %
Concentration per Run 3	0.9964 ppm	98.9635 %	95.8597 %	95.6614 %	98.2673 %	89.1531 %	95.8024 %
Concentration RSD	0.3 %	0.9 %	0.2 %	0.3 %	0.2 %	0.4 %	0.1 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: ICV
 Analysis started at: 9/20/2024 5:21:18 PM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5062 ppm	0.5111 ppm	0.4736 ppm	0.4845 ppm	0.5039 ppm	0.5117 ppm	0.5095 ppm
Concentration per Run 1	0.5057 ppm	0.5046 ppm	0.4726 ppm	0.4834 ppm	0.4952 ppm	0.5018 ppm	0.5006 ppm
Concentration per Run 2	0.5071 ppm	0.5129 ppm	0.4757 ppm	0.4862 ppm	0.5064 ppm	0.5140 ppm	0.5132 ppm
Concentration per Run 3	0.5057 ppm	0.5158 ppm	0.4726 ppm	0.4838 ppm	0.5099 ppm	0.5194 ppm	0.5147 ppm
Recovery Percentage 1	101.236 %	102.227 %	94.723 %	96.893 %	100.771 %	102.343 %	101.899 %
Concentration RSD	0.2 %	1.1 %	0.4 %	0.3 %	1.5 %	1.8 %	1.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.4762 ppm	0.4866 ppm	0.4969 ppm	0.4841 ppm	0.5176 ppm	5.2449 ppm	0.4976 ppm
Concentration per Run 1	0.4770 ppm	0.4859 ppm	0.4974 ppm	0.4823 ppm	0.5052 ppm	5.1540 ppm	0.4915 ppm
Concentration per Run 2	0.4766 ppm	0.4882 ppm	0.4982 ppm	0.4861 ppm	0.5186 ppm	5.2770 ppm	0.4982 ppm
Concentration per Run 3	0.4749 ppm	0.4858 ppm	0.4951 ppm	0.4840 ppm	0.5290 ppm	5.3037 ppm	0.5032 ppm
Recovery Percentage 1	95.231 %	97.321 %	99.381 %	96.821 %	103.522 %	104.898 %	99.528 %
Concentration RSD	0.2 %	0.3 %	0.3 %	0.4 %	2.3 %	1.5 %	1.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5015 ppm	0.4976 ppm	0.4711 ppm	10.0197 ppm	0.4886 ppm	0.4924 ppm	0.4889 ppm
Concentration per Run 1	0.5026 ppm	0.4889 ppm	0.4702 ppm	9.8540 ppm	0.4885 ppm	0.4916 ppm	0.4862 ppm
Concentration per Run 2	0.5004 ppm	0.5008 ppm	0.4726 ppm	10.0298 ppm	0.4901 ppm	0.4942 ppm	0.4910 ppm
Concentration per Run 3	0.5014 ppm	0.5032 ppm	0.4704 ppm	10.1753 ppm	0.4871 ppm	0.4915 ppm	0.4896 ppm
Recovery Percentage 1	100.292 %	99.527 %	94.211 %	100.197 %	97.711 %	98.478 %	97.782 %
Concentration RSD	0.2 %	1.5 %	0.3 %	1.6 %	0.3 %	0.3 %	0.5 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.4907 ppm	5.3768 ppm	0.4608 ppm	0.4761 ppm	0.5029 ppm	0.5013 ppm	0.4924 ppm
Concentration per Run 1	0.4899 ppm	5.3657 ppm	0.4615 ppm	0.4679 ppm	0.5023 ppm	0.5011 ppm	0.4911 ppm
Concentration per Run 2	0.4942 ppm	5.4036 ppm	0.4612 ppm	0.4785 ppm	0.5052 ppm	0.5033 ppm	0.4953 ppm
Concentration per Run 3	0.4881 ppm	5.3611 ppm	0.4597 ppm	0.4818 ppm	0.5013 ppm	0.4995 ppm	0.4909 ppm
Recovery Percentage 1	98.139 %	102.416 %	92.161 %	95.213 %	100.589 %	100.259 %	98.489 %
Concentration RSD	0.6 %	0.4 %	0.2 %	1.5 %	0.4 %	0.4 %	0.5 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.4907 ppm	99.9721 %	98.0602 %	97.7369 %	98.7290 %	95.8073 %	98.1748 %
Concentration per Run 1	0.4911 ppm	101.3136 %	98.0472 %	97.9109 %	101.4443 %	96.0366 %	98.3519 %
Concentration per Run 2	0.4911 ppm	99.0186 %	98.1768 %	97.4538 %	97.7958 %	95.3172 %	97.8827 %
Concentration per Run 3	0.4899 ppm	99.5839 %	97.9567 %	97.8460 %	96.9468 %	96.0681 %	98.2898 %
Recovery Percentage 1	98.142 %						
Concentration RSD	0.1 %	1.2 %	0.1 %	0.3 %	2.4 %	0.4 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: ICB
 Analysis started at: 9/20/2024 5:27:21 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0003 ppm	0.0005 ppm	0.0001 ppm	0.0014 ppm	0.0000 ppm	0.0000 ppm	0.0020 ppm
Concentration per Run 1	-0.0005 ppm	0.0002 ppm	0.0002 ppm	0.0014 ppm	0.0001 ppm	0.0000 ppm	0.0025 ppm
Concentration per Run 2	-0.0003 ppm	0.0018 ppm	-0.0001 ppm	0.0011 ppm	0.0000 ppm	0.0000 ppm	0.0028 ppm
Concentration per Run 3	-0.0001 ppm	-0.0006 ppm	0.0003 ppm	0.0016 ppm	0.0001 ppm	0.0000 ppm	0.0006 ppm
Recovery Percentage 1	-4.077 %	0.480 %	2.280 %	4.627 %	0.422 %	-0.626 %	1.988 %
Concentration RSD	73.2 %	253.3 %	180.6 %	16.9 %	174.9 %	55.3 %	61.4 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	-0.0007 ppm	0.0003 ppm	-0.0011 ppm	-0.0151 ppm	0.0005 ppm
Concentration per Run 1	-0.0001 ppm	0.0000 ppm	-0.0010 ppm	0.0002 ppm	-0.0016 ppm	-0.0033 ppm	0.0005 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	-0.0005 ppm	0.0001 ppm	-0.0014 ppm	-0.0211 ppm	0.0001 ppm
Concentration per Run 3	0.0000 ppm	0.0000 ppm	-0.0005 ppm	0.0005 ppm	-0.0003 ppm	-0.0208 ppm	0.0009 ppm
Recovery Percentage 1	-0.678 %	0.148 %	-6.521 %	2.901 %	-2.213 %	-0.603 %	4.804 %
Concentration RSD	90.8 %	208.7 %	40.7 %	69.7 %	65.7 %	67.5 %	90.3 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0002 ppm	0.0000 ppm	0.0002 ppm	0.0029 ppm	-0.0002 ppm	0.0000 ppm	-0.0001 ppm
Concentration per Run 1	-0.0016 ppm	-0.0001 ppm	0.0002 ppm	0.0034 ppm	-0.0001 ppm	0.0002 ppm	-0.0004 ppm
Concentration per Run 2	0.0007 ppm	0.0000 ppm	0.0002 ppm	0.0038 ppm	-0.0002 ppm	-0.0001 ppm	-0.0003 ppm
Concentration per Run 3	0.0002 ppm	0.0000 ppm	0.0002 ppm	0.0014 ppm	-0.0002 ppm	0.0000 ppm	0.0002 ppm
Recovery Percentage 1	-0.224 %	-0.144 %	0.356 %	0.143 %	-0.705 %	0.392 %	-0.277 %
Concentration RSD	539.4 %	557.8 %	7.9 %	45.8 %	39.4 %	351.9 %	225.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0003 ppm	-0.0002 ppm	0.0000 ppm	0.0000 ppm	-0.0001 ppm	-0.0002 ppm	0.0002 ppm
Concentration per Run 1	0.0003 ppm	-0.0008 ppm	-0.0001 ppm	-0.0001 ppm	-0.0001 ppm	-0.0005 ppm	0.0000 ppm
Concentration per Run 2	-0.0010 ppm	-0.0003 ppm	0.0003 ppm	0.0000 ppm	-0.0002 ppm	0.0001 ppm	0.0003 ppm
Concentration per Run 3	-0.0003 ppm	0.0004 ppm	-0.0001 ppm	0.0000 ppm	-0.0001 ppm	-0.0002 ppm	0.0002 ppm
Recovery Percentage 1	-3.241 %	-0.050 %	0.042 %	-0.064 %	-1.344 %	-0.911 %	1.814 %
Concentration RSD	200.3 %	242.8 %	1,093.0 %	1,094.5 %	46.4 %	155.8 %	102.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0003 ppm	98.9384 %	97.4278 %	96.1601 %	98.0387 %	96.4019 %	97.2690 %
Concentration per Run 1	0.0003 ppm	99.0310 %	97.8936 %	96.4828 %	99.2598 %	96.9860 %	97.6252 %
Concentration per Run 2	0.0002 ppm	99.2356 %	97.4307 %	96.0009 %	97.2389 %	96.1900 %	97.5916 %
Concentration per Run 3	0.0003 ppm	98.5488 %	96.9589 %	95.9967 %	97.6175 %	96.0296 %	96.5903 %
Recovery Percentage 1	5.112 %						
Concentration RSD	20.7 %	0.4 %	0.5 %	0.3 %	1.1 %	0.5 %	0.6 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: ICV
 Analysis started at: 9/20/2024 5:33:47 PM
 Comments: position changed
 Rack: 0
 Vial: 10

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5036 ppm	0.5399 ppm	0.4763 ppm	0.4802 ppm	0.5027 ppm	0.5130 ppm	0.5046 ppm
Concentration per Run 1	0.5041 ppm	0.5314 ppm	0.4756 ppm	0.4788 ppm	0.4930 ppm	0.5058 ppm	0.5006 ppm
Concentration per Run 2	0.5021 ppm	0.5372 ppm	0.4757 ppm	0.4790 ppm	0.5053 ppm	0.5159 ppm	0.5017 ppm
Concentration per Run 3	0.5047 ppm	0.5510 ppm	0.4775 ppm	0.4827 ppm	0.5097 ppm	0.5173 ppm	0.5113 ppm
Recovery Percentage 1	100.721 %	107.976 %	95.254 %	96.034 %	100.532 %	102.602 %	100.915 %
Concentration RSD	0.3 %	1.9 %	0.2 %	0.5 %	1.7 %	1.2 %	1.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.4796 ppm	0.4925 ppm	0.4971 ppm	0.4876 ppm	0.5086 ppm	5.1865 ppm	0.4965 ppm
Concentration per Run 1	0.4789 ppm	0.4918 ppm	0.4952 ppm	0.4866 ppm	0.5011 ppm	5.0866 ppm	0.4863 ppm
Concentration per Run 2	0.4800 ppm	0.4921 ppm	0.4982 ppm	0.4861 ppm	0.5139 ppm	5.2124 ppm	0.4990 ppm
Concentration per Run 3	0.4798 ppm	0.4936 ppm	0.4979 ppm	0.4901 ppm	0.5106 ppm	5.2605 ppm	0.5044 ppm
Recovery Percentage 1	95.912 %	98.500 %	99.421 %	97.518 %	101.711 %	103.730 %	99.308 %
Concentration RSD	0.1 %	0.2 %	0.3 %	0.4 %	1.3 %	1.7 %	1.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5015 ppm	0.5000 ppm	0.4780 ppm	10.0648 ppm	0.4920 ppm	0.4939 ppm	0.4919 ppm
Concentration per Run 1	0.5065 ppm	0.4953 ppm	0.4772 ppm	9.8823 ppm	0.4912 ppm	0.4929 ppm	0.4917 ppm
Concentration per Run 2	0.4974 ppm	0.5027 ppm	0.4773 ppm	10.1120 ppm	0.4918 ppm	0.4932 ppm	0.4905 ppm
Concentration per Run 3	0.5007 ppm	0.5018 ppm	0.4795 ppm	10.2002 ppm	0.4930 ppm	0.4957 ppm	0.4935 ppm
Recovery Percentage 1	100.309 %	99.992 %	95.602 %	100.648 %	98.406 %	98.783 %	98.374 %
Concentration RSD	0.9 %	0.8 %	0.3 %	1.6 %	0.2 %	0.3 %	0.3 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.4807 ppm	5.4325 ppm	0.4733 ppm	0.4882 ppm	0.5042 ppm	0.5037 ppm	0.4946 ppm
Concentration per Run 1	0.4802 ppm	5.4205 ppm	0.4728 ppm	0.4798 ppm	0.5007 ppm	0.5039 ppm	0.4917 ppm
Concentration per Run 2	0.4790 ppm	5.4221 ppm	0.4724 ppm	0.4907 ppm	0.5054 ppm	0.5017 ppm	0.4955 ppm
Concentration per Run 3	0.4828 ppm	5.4548 ppm	0.4747 ppm	0.4942 ppm	0.5065 ppm	0.5056 ppm	0.4967 ppm
Recovery Percentage 1	96.133 %	103.476 %	94.665 %	97.643 %	100.839 %	100.749 %	98.924 %
Concentration RSD	0.4 %	0.4 %	0.3 %	1.5 %	0.6 %	0.4 %	0.5 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.4869 ppm	99.7959 %	97.4825 %	96.8801 %	98.7880 %	94.5074 %	97.7985 %
Concentration per Run 1	0.4871 ppm	100.4763 %	97.3057 %	96.9043 %	100.2336 %	94.6936 %	98.2264 %
Concentration per Run 2	0.4863 ppm	99.3220 %	97.2761 %	96.9907 %	98.1149 %	94.6923 %	97.6011 %
Concentration per Run 3	0.4873 ppm	99.5895 %	97.8656 %	96.7453 %	98.0154 %	94.1363 %	97.5679 %
Recovery Percentage 1	97.379 %						
Concentration RSD	0.1 %	0.6 %	0.3 %	0.1 %	1.3 %	0.3 %	0.4 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: ICB
 Analysis started at: 9/20/2024 5:39:54 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0036 ppm	0.0003 ppm	0.0013 ppm	0.0000 ppm	0.0000 ppm	0.0016 ppm
Concentration per Run 1	0.0001 ppm	0.0059 ppm	0.0010 ppm	0.0011 ppm	0.0000 ppm	0.0000 ppm	0.0014 ppm
Concentration per Run 2	0.0000 ppm	0.0036 ppm	-0.0008 ppm	0.0014 ppm	0.0000 ppm	0.0000 ppm	0.0020 ppm
Concentration per Run 3	-0.0002 ppm	0.0014 ppm	0.0007 ppm	0.0014 ppm	0.0000 ppm	0.0000 ppm	0.0013 ppm
Recovery Percentage 1	-0.220 %	3.635 %	6.325 %	4.232 %	-0.247 %	-0.303 %	1.564 %
Concentration RSD	1,025.8 %	62.6 %	296.5 %	14.2 %	163.4 %	95.5 %	23.7 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	-0.0006 ppm	0.0003 ppm	-0.0015 ppm	-0.0220 ppm	0.0009 ppm
Concentration per Run 1	-0.0001 ppm	0.0001 ppm	-0.0005 ppm	0.0003 ppm	-0.0021 ppm	-0.0381 ppm	0.0008 ppm
Concentration per Run 2	0.0000 ppm	0.0000 ppm	-0.0006 ppm	0.0002 ppm	-0.0012 ppm	-0.0056 ppm	0.0010 ppm
Concentration per Run 3	0.0000 ppm	0.0000 ppm	-0.0007 ppm	0.0003 ppm	-0.0014 ppm	-0.0223 ppm	0.0009 ppm
Recovery Percentage 1	-0.943 %	0.215 %	-6.137 %	2.516 %	-3.098 %	-0.881 %	8.962 %
Concentration RSD	43.7 %	98.4 %	17.0 %	28.1 %	29.9 %	73.7 %	10.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0008 ppm	-0.0001 ppm	0.0001 ppm	0.0053 ppm	-0.0003 ppm	0.0000 ppm	0.0002 ppm
Concentration per Run 1	-0.0015 ppm	-0.0002 ppm	0.0002 ppm	0.0044 ppm	-0.0004 ppm	0.0000 ppm	0.0005 ppm
Concentration per Run 2	-0.0002 ppm	-0.0001 ppm	0.0000 ppm	0.0080 ppm	-0.0002 ppm	0.0003 ppm	-0.0005 ppm
Concentration per Run 3	-0.0007 ppm	0.0000 ppm	0.0001 ppm	0.0035 ppm	-0.0003 ppm	-0.0002 ppm	0.0005 ppm
Recovery Percentage 1	-0.785 %	-0.932 %	0.171 %	0.265 %	-1.194 %	0.251 %	0.360 %
Concentration RSD	81.2 %	62.7 %	125.6 %	44.6 %	38.4 %	974.7 %	319.3 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0010 ppm	-0.0007 ppm	0.0003 ppm	0.0000 ppm	-0.0002 ppm	-0.0004 ppm	0.0000 ppm
Concentration per Run 1	-0.0007 ppm	-0.0008 ppm	0.0004 ppm	0.0000 ppm	-0.0002 ppm	-0.0001 ppm	0.0000 ppm
Concentration per Run 2	-0.0009 ppm	-0.0008 ppm	0.0000 ppm	0.0000 ppm	-0.0001 ppm	-0.0002 ppm	-0.0002 ppm
Concentration per Run 3	-0.0015 ppm	-0.0004 ppm	0.0004 ppm	-0.0001 ppm	-0.0002 ppm	-0.0008 ppm	0.0003 ppm
Recovery Percentage 1	-10.481 %	-0.131 %	0.526 %	-0.274 %	-1.583 %	-1.791 %	0.366 %
Concentration RSD	38.9 %	34.8 %	74.1 %	176.8 %	46.3 %	109.2 %	651.1 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0002 ppm	100.2633 %	98.9801 %	97.9201 %	98.9051 %	98.8346 %	98.6192 %
Concentration per Run 1	0.0002 ppm	100.1930 %	98.8404 %	98.0647 %	100.2617 %	99.0850 %	98.5664 %
Concentration per Run 2	0.0003 ppm	100.8407 %	99.1738 %	97.9834 %	98.9083 %	98.6335 %	98.4675 %
Concentration per Run 3	0.0002 ppm	99.7562 %	98.9263 %	97.7123 %	97.5453 %	98.7853 %	98.8236 %
Recovery Percentage 1	4.466 %						
Concentration RSD	41.6 %	0.5 %	0.2 %	0.2 %	1.4 %	0.2 %	0.2 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: LLOQ
Analysis started at: 9/20/2024 5:46:19 PM
Comments: <Comment>
Rack: 0
Vial: 5

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0051 ppm	0.1072 ppm	0.0050 ppm	0.0312 ppm	0.0103 ppm	0.0051 ppm	0.1086 ppm
Concentration per Run 1	0.0050 ppm	0.1066 ppm	0.0046 ppm	0.0314 ppm	0.0101 ppm	0.0050 ppm	0.1071 ppm
Concentration per Run 2	0.0050 ppm	0.1065 ppm	0.0032 ppm	0.0312 ppm	0.0104 ppm	0.0052 ppm	0.1127 ppm
Concentration per Run 3	0.0053 ppm	0.1086 ppm	0.0073 ppm	0.0312 ppm	0.0104 ppm	0.0052 ppm	0.1060 ppm
Recovery Percentage 1	102.069 %	107.244 %	100.758 %	104.119 %	102.586 %	102.346 %	108.570 %
Concentration RSD	2.8 %	1.1 %	41.2 %	0.4 %	1.7 %	1.7 %	3.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0039 ppm	0.0198 ppm	0.0093 ppm	0.0105 ppm	0.0583 ppm	2.5994 ppm	0.0106 ppm
Concentration per Run 1	0.0039 ppm	0.0198 ppm	0.0094 ppm	0.0104 ppm	0.0562 ppm	2.5549 ppm	0.0108 ppm
Concentration per Run 2	0.0039 ppm	0.0198 ppm	0.0096 ppm	0.0106 ppm	0.0595 ppm	2.6059 ppm	0.0105 ppm
Concentration per Run 3	0.0039 ppm	0.0197 ppm	0.0089 ppm	0.0105 ppm	0.0592 ppm	2.6374 ppm	0.0106 ppm
Recovery Percentage 1	97.532 %	98.864 %	93.118 %	105.277 %	116.618 %	103.976 %	106.034 %
Concentration RSD	0.7 %	0.2 %	3.6 %	1.0 %	3.2 %	1.6 %	1.3 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.1074 ppm	0.0106 ppm	0.0486 ppm	2.0639 ppm	0.0192 ppm	0.0098 ppm	0.0498 ppm
Concentration per Run 1	0.1062 ppm	0.0104 ppm	0.0484 ppm	2.0227 ppm	0.0189 ppm	0.0098 ppm	0.0496 ppm
Concentration per Run 2	0.1102 ppm	0.0106 ppm	0.0487 ppm	2.0770 ppm	0.0193 ppm	0.0098 ppm	0.0496 ppm
Concentration per Run 3	0.1059 ppm	0.0109 ppm	0.0487 ppm	2.0921 ppm	0.0195 ppm	0.0099 ppm	0.0503 ppm
Recovery Percentage 1	107.423 %	106.224 %	97.179 %	103.197 %	96.063 %	98.393 %	99.651 %
Concentration RSD	2.3 %	2.4 %	0.3 %	1.8 %	1.6 %	0.3 %	0.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0083 ppm	0.5340 ppm	0.0487 ppm	0.0100 ppm	0.0523 ppm	0.0203 ppm	0.0104 ppm
Concentration per Run 1	0.0082 ppm	0.5325 ppm	0.0486 ppm	0.0098 ppm	0.0524 ppm	0.0202 ppm	0.0104 ppm
Concentration per Run 2	0.0085 ppm	0.5336 ppm	0.0487 ppm	0.0101 ppm	0.0526 ppm	0.0205 ppm	0.0105 ppm
Concentration per Run 3	0.0081 ppm	0.5359 ppm	0.0487 ppm	0.0101 ppm	0.0519 ppm	0.0203 ppm	0.0104 ppm
Recovery Percentage 1	82.720 %	106.804 %	97.314 %	99.776 %	104.583 %	101.734 %	104.002 %
Concentration RSD	2.7 %	0.3 %	0.1 %	1.9 %	0.6 %	0.9 %	0.5 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0059 ppm	99.8814 %	98.5993 %	97.3124 %	99.3690 %	96.8364 %	98.4938 %
Concentration per Run 1	0.0057 ppm	100.7312 %	98.7667 %	97.4266 %	101.4918 %	97.1992 %	98.7282 %
Concentration per Run 2	0.0059 ppm	99.1993 %	98.5517 %	97.2891 %	98.3235 %	96.9135 %	98.0923 %
Concentration per Run 3	0.0059 ppm	99.7137 %	98.4795 %	97.2214 %	98.2919 %	96.3964 %	98.6611 %
Recovery Percentage 1	117.096 %						
Concentration RSD	1.8 %	0.8 %	0.2 %	0.1 %	1.9 %	0.4 %	0.4 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: ICSA
Analysis started at: 9/20/2024 5:52:42 PM
Comments: <Comment>
Rack: 0
Vial: 6

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0009 ppm	507.9966 [SIC 500]	0.0032 ppm	-0.0117 ppm	0.0005 ppm	-0.0004 ppm	555.2712 [SIC 1000]
Concentration per Run 1	0.0009 ppm	500.2041 ppm	-0.0002 ppm	-0.0116 ppm	0.0005 ppm	-0.0004 ppm	557.1214 ppm
Concentration per Run 2	0.0008 ppm	508.3611 ppm	0.0052 ppm	-0.0117 ppm	0.0004 ppm	-0.0005 ppm	554.7783 ppm
Concentration per Run 3	0.0009 ppm	515.4245 ppm	0.0047 ppm	-0.0117 ppm	0.0004 ppm	-0.0004 ppm	553.9139 ppm
Recovery Percentage 1	12.686 %	507,996.572 %	64.572 %	-38.843 %	4.546 %	-8.926 %	555,271.179 %
Concentration RSD	6.7 %	1.5 %	92.6 %	0.2 %	6.1 %	0.9 %	0.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0004 ppm	0.0013 ppm	0.0010 ppm	-0.0003 ppm	183.7464 ppm	-0.0311 ppm	-0.0083 ppm
Concentration per Run 1	0.0004 ppm	0.0013 ppm	0.0007 ppm	-0.0005 ppm	180.5622 ppm	-0.0358 ppm	-0.0083 ppm
Concentration per Run 2	0.0004 ppm	0.0015 ppm	0.0012 ppm	-0.0004 ppm	182.9312 ppm	-0.0344 ppm	-0.0088 ppm
Concentration per Run 3	0.0004 ppm	0.0013 ppm	0.0010 ppm	0.0000 ppm	187.7457 ppm	-0.0230 ppm	-0.0078 ppm
Recovery Percentage 1	9.219 %	6.708 %	9.713 %	-3.008 %	367,492.703 %	-1.242 %	-83.116 %
Concentration RSD	0.6 %	9.7 %	26.3 %	76.2 %	2.0 %	22.7 %	5.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	466.4377 ppm	0.0018 ppm	-0.0013 ppm	0.0194 ppm	0.0063 ppm	0.0065 ppm	-0.0157 ppm
Concentration per Run 1	468.8040 ppm	0.0019 ppm	-0.0015 ppm	0.0151 ppm	0.0059 ppm	0.0083 ppm	-0.0138 ppm
Concentration per Run 2	466.5234 ppm	0.0018 ppm	-0.0012 ppm	0.0226 ppm	0.0062 ppm	0.0056 ppm	-0.0175 ppm
Concentration per Run 3	463.9856 ppm	0.0018 ppm	-0.0013 ppm	0.0204 ppm	0.0067 ppm	0.0058 ppm	-0.0158 ppm
Recovery Percentage 1	466,437.664 %	18.398 %	-2.693 %	0.968 %	25.037 %	65.392 %	-31.390 %
Concentration RSD	0.5 %	3.8 %	8.0 %	20.0 %	6.0 %	22.9 %	11.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0019 ppm	0.0001 ppm	0.0026 ppm	-0.0004 ppm	-0.0044 ppm	-0.0012 ppm	-0.0022 ppm
Concentration per Run 1	-0.0033 ppm	-0.0001 ppm	0.0020 ppm	-0.0005 ppm	-0.0046 ppm	-0.0016 ppm	-0.0023 ppm
Concentration per Run 2	-0.0004 ppm	0.0019 ppm	0.0031 ppm	-0.0004 ppm	-0.0041 ppm	-0.0004 ppm	-0.0022 ppm
Concentration per Run 3	-0.0019 ppm	-0.0016 ppm	0.0028 ppm	-0.0004 ppm	-0.0044 ppm	-0.0017 ppm	-0.0022 ppm
Recovery Percentage 1	-18.705 %	0.014 %	5.255 %	-4.363 %	-43.683 %	-6.042 %	-22.073 %
Concentration RSD	78.3 %	2,508.7 %	20.2 %	9.1 %	5.4 %	61.3 %	1.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	-0.0052 ppm	93.1255 %	83.5085 %	84.5064 %	91.6979 %	65.3271 %	83.2926 %
Concentration per Run 1	-0.0053 ppm	94.1491 %	83.4206 %	84.5934 %	92.5086 %	65.4250 %	83.2146 %
Concentration per Run 2	-0.0051 ppm	93.2249 %	83.7047 %	84.6295 %	91.8831 %	65.3248 %	83.4673 %
Concentration per Run 3	-0.0052 ppm	92.0024 %	83.4002 %	84.2962 %	90.7019 %	65.2314 %	83.1960 %
Recovery Percentage 1	-104.085 %						
Concentration RSD	1.0 %	1.2 %	0.2 %	0.2 %	1.0 %	0.1 %	0.2 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: SIC Multi
 Analysis started at: 9/20/2024 5:59:28 PM
 Comments: <Comment>
 Rack: 0
 Vial: 7

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0020 ppm	0.0085 ppm	-0.0003 ppm	0.0103 ppm	0.0003 ppm	-0.0008 ppm	0.0140 ppm
Concentration per Run 1	0.0019 ppm	0.0088 ppm	-0.0016 ppm	0.0103 ppm	0.0004 ppm	-0.0008 ppm	0.0152 ppm
Concentration per Run 2	0.0021 ppm	0.0095 ppm	0.0008 ppm	0.0105 ppm	0.0003 ppm	-0.0009 ppm	0.0115 ppm
Concentration per Run 3	0.0019 ppm	0.0072 ppm	-0.0003 ppm	0.0102 ppm	0.0003 ppm	-0.0008 ppm	0.0152 ppm
Recovery Percentage 1	28.316 %	8.511 %	-6.944 %	34.408 %	3.334 %	-16.470 %	13.983 %
Concentration RSD	6.8 %	14.2 %	350.5 %	1.8 %	19.0 %	7.3 %	15.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0008 ppm	-0.0014 ppm	19.7200 ppm	-0.0034 ppm	-0.0065 ppm	-0.0263 ppm	-0.0002 ppm
Concentration per Run 1	-0.0008 ppm	-0.0014 ppm	19.7524 ppm	-0.0034 ppm	-0.0061 ppm	-0.0322 ppm	0.0001 ppm
Concentration per Run 2	-0.0008 ppm	-0.0015 ppm	19.7483 ppm	-0.0033 ppm	-0.0063 ppm	-0.0201 ppm	-0.0004 ppm
Concentration per Run 3	-0.0009 ppm	-0.0013 ppm	19.6593 ppm	-0.0033 ppm	-0.0071 ppm	-0.0267 ppm	-0.0002 ppm
Recovery Percentage 1	-20.828 %	-7.122 %	197,200.034 %	-33.646 %	-12.999 %	-1.053 %	-2.021 %
Concentration RSD	2.8 %	5.7 %	0.3 %	2.1 %	8.4 %	23.0 %	127.7 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0203 ppm	20.3201 [SIC 30]	-0.0022 ppm	0.0078 ppm	0.0016 ppm	0.0022 ppm	-0.0068 ppm
Concentration per Run 1	-0.0210 ppm	20.2164 ppm	-0.0021 ppm	0.0059 ppm	0.0013 ppm	0.0021 ppm	-0.0067 ppm
Concentration per Run 2	-0.0189 ppm	20.4997 ppm	-0.0021 ppm	0.0078 ppm	0.0016 ppm	0.0026 ppm	-0.0078 ppm
Concentration per Run 3	-0.0211 ppm	20.2442 ppm	-0.0024 ppm	0.0097 ppm	0.0018 ppm	0.0020 ppm	-0.0060 ppm
Recovery Percentage 1	-20.309 %	203,201.149 %	-4.402 %	0.391 %	6.327 %	22.198 %	-13.678 %
Concentration RSD	6.2 %	0.8 %	6.3 %	24.2 %	14.3 %	14.0 %	13.0 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0019 ppm	0.2506 ppm	-0.0022 ppm	0.0001 ppm	19.8522 ppm	-0.0317 ppm	10.1035 [SIC 10]
Concentration per Run 1	-0.0001 ppm	0.2506 ppm	-0.0023 ppm	0.0001 ppm	19.8908 ppm	-0.0324 ppm	10.0802 ppm
Concentration per Run 2	-0.0017 ppm	0.2496 ppm	-0.0021 ppm	0.0001 ppm	19.9459 ppm	-0.0307 ppm	10.2146 ppm
Concentration per Run 3	-0.0039 ppm	0.2516 ppm	-0.0023 ppm	0.0001 ppm	19.7200 ppm	-0.0320 ppm	10.0159 ppm
Recovery Percentage 1	-18.787 %	50.123 %	-4.458 %	1.073 %	198,522.476 %	-158.613 %	101,035.402 %
Concentration RSD	101.3 %	0.4 %	5.6 %	30.0 %	0.6 %	2.7 %	1.0 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	-0.0011 ppm	98.9706 %	97.8602 %	98.3010 %	98.6469 %	97.2356 %	98.1659 %
Concentration per Run 1	-0.0012 ppm	98.5548 %	98.1706 %	98.4701 %	98.7177 %	97.4044 %	98.3084 %
Concentration per Run 2	-0.0009 ppm	99.4779 %	97.3923 %	98.3938 %	98.5669 %	97.1367 %	97.8025 %
Concentration per Run 3	-0.0012 ppm	98.8790 %	98.0177 %	98.0391 %	98.6563 %	97.1655 %	98.3870 %
Recovery Percentage 1	-22.310 %						
Concentration RSD	13.7 %	0.5 %	0.4 %	0.2 %	0.1 %	0.2 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: LDR Check
 Analysis started at: 9/20/2024 6:06:24 PM
 Comments: <Comment>
 Rack: 0
 Vial: 8

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0029 ppm	0.1560 ppm	21.6522 ppm	24.5728 [SIC 20]	19.9291 ppm	5.1629 ppm	0.0242 ppm
Concentration per Run 1	0.0031 ppm	0.1541 ppm	21.6308 ppm	24.6413 ppm	19.6525 ppm	5.1498 ppm	0.0234 ppm
Concentration per Run 2	0.0026 ppm	0.1539 ppm	21.7153 ppm	24.6408 ppm	19.7040 ppm	5.1033 ppm	0.0260 ppm
Concentration per Run 3	0.0030 ppm	0.1601 ppm	21.6103 ppm	24.4364 ppm	20.4309 ppm	5.2357 ppm	0.0233 ppm
Recovery Percentage 1	0.000 %	0.000 %	108.261 %	122.864 %	99.646 %	103.259 %	0.000 %
Concentration RSD	9.0 %	2.2 %	0.3 %	0.5 %	2.2 %	1.3 %	6.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	5.1946 ppm	5.0335 ppm	-0.0009 ppm	20.5240 [SIC 20]	0.0173 ppm	506.0351 ppm	18.9939 ppm
Concentration per Run 1	5.1521 ppm	5.0194 ppm	-0.0007 ppm	20.8034 ppm	0.0185 ppm	511.5678 ppm	18.5833 ppm
Concentration per Run 2	5.2015 ppm	5.0429 ppm	-0.0013 ppm	20.3625 ppm	0.0167 ppm	494.9458 ppm	18.6788 ppm
Concentration per Run 3	5.2302 ppm	5.0382 ppm	-0.0008 ppm	20.4061 ppm	0.0168 ppm	511.5916 ppm	19.7197 ppm
Recovery Percentage 1	103.892 %	100.670 %	0.000 %	102.620 %	0.000 %	101.207 %	94.970 %
Concentration RSD	0.8 %	0.2 %	34.6 %	1.2 %	5.9 %	1.9 %	3.3 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.1246 ppm	0.0005 ppm	5.1918 [SIC 5]	427.0844 [SIC LDR]	9.7286 ppm	47.4386 ppm	5.2736 ppm
Concentration per Run 1	-0.1252 ppm	0.0005 ppm	5.1839 ppm	443.3237 ppm	9.6829 ppm	47.2791 ppm	5.2988 ppm
Concentration per Run 2	-0.1242 ppm	0.0003 ppm	5.2026 ppm	418.6583 ppm	9.7427 ppm	47.5047 ppm	5.2941 ppm
Concentration per Run 3	-0.1244 ppm	0.0005 ppm	5.1891 ppm	419.2711 ppm	9.7601 ppm	47.5320 ppm	5.2278 ppm
Recovery Percentage 1	0.000 %	0.000 %	103.837 %	85.417 %	97.286 %	94.877 %	105.471 %
Concentration RSD	0.4 %	21.3 %	0.2 %	3.3 %	0.4 %	0.3 %	0.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	5.1110 [SIC 5]	22.0504 [SIC 50]	9.4625 ppm	4.8838 ppm	0.0033 ppm	4.3059 ppm	0.0146 ppm
Concentration per Run 1	5.1143 ppm	22.1029 ppm	9.4301 ppm	4.8004 ppm	0.0039 ppm	4.2989 ppm	0.0141 ppm
Concentration per Run 2	5.1304 ppm	22.1120 ppm	9.4823 ppm	4.8763 ppm	0.0031 ppm	4.3148 ppm	0.0144 ppm
Concentration per Run 3	5.0883 ppm	21.9363 ppm	9.4750 ppm	4.9748 ppm	0.0030 ppm	4.3040 ppm	0.0152 ppm
Recovery Percentage 1	102.220 %	110.252 %	94.625 %	97.677 %	0.000 %	86.118 %	0.000 %
Concentration RSD	0.4 %	0.4 %	0.3 %	1.8 %	15.0 %	0.2 %	3.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	20.8340 [SIC 15]	95.0673 %	84.9377 %	75.5193 %	94.3012 %	78.5682 %	84.5861 %
Concentration per Run 1	20.6161 ppm	95.6552 %	85.4547 %	75.8399 %	94.9261 %	78.5190 %	85.1143 %
Concentration per Run 2	20.8514 ppm	95.6654 %	84.9320 %	75.2384 %	94.7374 %	78.3672 %	84.7022 %
Concentration per Run 3	21.0346 ppm	93.8813 %	84.4263 %	75.4796 %	93.2401 %	78.8184 %	83.9419 %
Recovery Percentage 1	104.170 %						
Concentration RSD	1.0 %	1.1 %	0.6 %	0.4 %	1.0 %	0.3 %	0.7 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: LLOQ 005 Zn pass
 Analysis started at: 9/20/2024 6:17:02 PM
 Comments: <Comment>
 Rack: 1
 Vial: 1

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0047 ppm	0.0051 ppm	0.0076 ppm	0.0295 ppm	0.0051 ppm	0.0051 ppm	0.0162 ppm
Concentration per Run 1	0.0048 ppm	0.0069 ppm	0.0069 ppm	0.0302 ppm	0.0050 ppm	0.0050 ppm	0.0163 ppm
Concentration per Run 2	0.0048 ppm	0.0040 ppm	0.0079 ppm	0.0294 ppm	0.0051 ppm	0.0050 ppm	0.0184 ppm
Concentration per Run 3	0.0046 ppm	0.0043 ppm	0.0081 ppm	0.0288 ppm	0.0053 ppm	0.0052 ppm	0.0141 ppm
Recovery Percentage 1	94.853 %	101.659 %	152.795 %	589.043 %	102.753 %	101.061 %	0.000 %
Concentration RSD	2.6 %	31.4 %	8.5 %	2.4 %	3.4 %	1.9 %	13.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0047 ppm	0.0047 ppm	0.0045 ppm	0.0049 ppm	0.0050 ppm	0.2115 ppm	0.0124 ppm
Concentration per Run 1	0.0048 ppm	0.0047 ppm	0.0046 ppm	0.0049 ppm	0.0046 ppm	0.2132 ppm	0.0123 ppm
Concentration per Run 2	0.0048 ppm	0.0047 ppm	0.0044 ppm	0.0048 ppm	0.0051 ppm	0.2127 ppm	0.0121 ppm
Concentration per Run 3	0.0047 ppm	0.0047 ppm	0.0046 ppm	0.0049 ppm	0.0055 ppm	0.2087 ppm	0.0128 ppm
Recovery Percentage 1	94.972 %	94.065 %	90.906 %	97.165 %	100.609 %	0.000 %	247.585 %
Concentration RSD	0.6 %	0.6 %	2.5 %	1.8 %	8.8 %	1.2 %	3.0 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0069 ppm	0.0051 ppm	0.0047 ppm	0.1351 ppm	0.0049 ppm	0.0050 ppm	0.0046 ppm
Concentration per Run 1	0.0063 ppm	0.0048 ppm	0.0047 ppm	0.1336 ppm	0.0049 ppm	0.0049 ppm	0.0052 ppm
Concentration per Run 2	0.0078 ppm	0.0052 ppm	0.0046 ppm	0.1301 ppm	0.0048 ppm	0.0046 ppm	0.0048 ppm
Concentration per Run 3	0.0068 ppm	0.0051 ppm	0.0047 ppm	0.1417 ppm	0.0049 ppm	0.0057 ppm	0.0039 ppm
Recovery Percentage 1	0.000 %	101.039 %	93.612 %	0.000 %	97.481 %	100.654 %	92.765 %
Concentration RSD	11.2 %	4.6 %	0.9 %	4.4 %	1.1 %	11.1 %	14.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0043 ppm	0.0524 ppm	0.0047 ppm	0.0049 ppm	0.0048 ppm	0.0048 ppm	0.0050 ppm
Concentration per Run 1	0.0032 ppm	0.0528 ppm	0.0043 ppm	0.0048 ppm	0.0047 ppm	0.0047 ppm	0.0049 ppm
Concentration per Run 2	0.0046 ppm	0.0523 ppm	0.0048 ppm	0.0049 ppm	0.0047 ppm	0.0053 ppm	0.0051 ppm
Concentration per Run 3	0.0053 ppm	0.0520 ppm	0.0051 ppm	0.0050 ppm	0.0052 ppm	0.0045 ppm	0.0051 ppm
Recovery Percentage 1	86.768 %	1,047.062 %	94.357 %	97.201 %	96.993 %	96.414 %	100.255 %
Concentration RSD	24.7 %	0.8 %	8.5 %	2.1 %	5.6 %	8.5 %	2.0 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0055 ppm	94.2914 %	99.2249 %	102.5323 %	94.5570 %	103.1040 %	100.1273 %
Concentration per Run 1	0.0055 ppm	94.5746 %	99.0765 %	102.3801 %	95.8933 %	103.1255 %	100.1085 %
Concentration per Run 2	0.0054 ppm	93.9205 %	99.3825 %	102.4621 %	94.2489 %	102.9207 %	99.9964 %
Concentration per Run 3	0.0056 ppm	94.3790 %	99.2158 %	102.7547 %	93.5288 %	103.2658 %	100.2771 %
Recovery Percentage 1	110.080 %						
Concentration RSD	1.1 %	0.4 %	0.2 %	0.2 %	1.3 %	0.2 %	0.1 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: IEC/LDR 500 Ca Zn-
 Analysis started at: 9/20/2024 6:25:51 PM
 Comments: <Comment>
 Rack: 1
 Vial: 2

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0111 ppm	0.0008 ppm	0.0196 ppm	0.0005 ppm	-0.0004 ppm	522.4984 [SIC 1000]
Concentration per Run 1	0.0001 ppm	0.0092 ppm	0.0002 ppm	0.0195 ppm	0.0005 ppm	-0.0004 ppm	518.9001 ppm
Concentration per Run 2	-0.0002 ppm	0.0082 ppm	0.0009 ppm	0.0202 ppm	0.0005 ppm	-0.0004 ppm	521.0578 ppm
Concentration per Run 3	-0.0003 ppm	0.0159 ppm	0.0014 ppm	0.0190 ppm	0.0004 ppm	-0.0005 ppm	527.5374 ppm
Concentration RSD	131.2 %	37.7 %	74.6 %	3.1 %	17.6 %	6.5 %	0.9 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0008 ppm	0.0001 ppm	-0.0004 ppm	0.0008 ppm	-0.0016 ppm	0.0704 ppm	0.0008 ppm
Concentration per Run 1	-0.0008 ppm	0.0001 ppm	-0.0005 ppm	0.0009 ppm	-0.0015 ppm	0.0773 ppm	0.0004 ppm
Concentration per Run 2	-0.0008 ppm	0.0000 ppm	-0.0004 ppm	0.0009 ppm	-0.0023 ppm	0.0668 ppm	0.0012 ppm
Concentration per Run 3	-0.0009 ppm	0.0002 ppm	-0.0003 ppm	0.0006 ppm	-0.0010 ppm	0.0671 ppm	0.0007 ppm
Concentration RSD	5.6 %	94.5 %	30.7 %	15.8 %	40.5 %	8.6 %	51.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0016 ppm	0.0002 ppm	0.0002 ppm	0.0264 ppm	-0.0007 ppm	0.0119 ppm	0.0081 ppm
Concentration per Run 1	-0.0005 ppm	0.0002 ppm	0.0002 ppm	0.0246 ppm	-0.0011 ppm	0.0120 ppm	0.0072 ppm
Concentration per Run 2	-0.0004 ppm	0.0000 ppm	0.0003 ppm	0.0307 ppm	-0.0007 ppm	0.0113 ppm	0.0084 ppm
Concentration per Run 3	-0.0039 ppm	0.0003 ppm	0.0002 ppm	0.0238 ppm	-0.0003 ppm	0.0123 ppm	0.0087 ppm
Concentration RSD	123.3 %	71.2 %	8.6 %	14.3 %	53.4 %	4.1 %	9.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0014 ppm	0.0088 ppm	0.0006 ppm	-0.0010 ppm	-0.0044 ppm	0.0001 ppm	0.0006 ppm
Concentration per Run 1	-0.0009 ppm	0.0090 ppm	0.0008 ppm	-0.0011 ppm	-0.0048 ppm	0.0006 ppm	0.0004 ppm
Concentration per Run 2	-0.0018 ppm	0.0089 ppm	0.0003 ppm	-0.0009 ppm	-0.0042 ppm	-0.0006 ppm	0.0006 ppm
Concentration per Run 3	-0.0014 ppm	0.0084 ppm	0.0006 ppm	-0.0011 ppm	-0.0042 ppm	0.0003 ppm	0.0007 ppm
Concentration RSD	34.1 %	3.8 %	40.3 %	9.1 %	8.4 %	571.2 %	22.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0000 ppm	89.9475 %	86.8387 %	89.2788 %	91.0236 %	77.8506 %	88.4813 %
Concentration per Run 1	0.0000 ppm	89.4765 %	86.9619 %	89.3744 %	91.8806 %	77.8218 %	88.5191 %
Concentration per Run 2	0.0001 ppm	89.9826 %	86.9327 %	89.2252 %	91.0439 %	77.7895 %	88.6291 %
Concentration per Run 3	-0.0001 ppm	90.3834 %	86.6216 %	89.2368 %	90.1465 %	77.9404 %	88.2956 %
Concentration RSD	12,500.6 %	0.5 %	0.2 %	0.1 %	1.0 %	0.1 %	0.2 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: xLDR 500 Na
 Analysis started at: 9/20/2024 6:32:19 PM
 Comments: <Comment>
 Rack: 1
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0026 ppm	0.0016 ppm	0.0115 ppm	0.0002 ppm	0.0000 ppm	0.0104 ppm
Concentration per Run 1	0.0000 ppm	0.0035 ppm	0.0017 ppm	0.0119 ppm	0.0002 ppm	0.0000 ppm	0.0117 ppm
Concentration per Run 2	-0.0001 ppm	0.0044 ppm	0.0008 ppm	0.0114 ppm	0.0001 ppm	0.0000 ppm	0.0096 ppm
Concentration per Run 3	-0.0003 ppm	-0.0001 ppm	0.0022 ppm	0.0113 ppm	0.0002 ppm	0.0000 ppm	0.0098 ppm
Concentration RSD	106.7 %	90.4 %	43.8 %	2.6 %	36.9 %	148.5 %	10.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0001 ppm	0.0002 ppm	-0.0001 ppm	0.0004 ppm	-0.0008 ppm	0.2285 ppm	-0.0057 ppm
Concentration per Run 1	-0.0001 ppm	0.0001 ppm	-0.0003 ppm	0.0005 ppm	-0.0012 ppm	0.2058 ppm	-0.0057 ppm
Concentration per Run 2	-0.0001 ppm	0.0002 ppm	-0.0003 ppm	0.0004 ppm	-0.0004 ppm	0.2120 ppm	-0.0060 ppm
Concentration per Run 3	-0.0001 ppm	0.0003 ppm	0.0003 ppm	0.0004 ppm	-0.0009 ppm	0.2677 ppm	-0.0053 ppm
Concentration RSD	33.7 %	50.6 %	298.9 %	7.5 %	51.5 %	14.9 %	6.6 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0000 ppm	0.0000 ppm	0.0000 ppm	424.9427 [SIC LDR]	-0.0008 ppm	-0.0001 ppm	-0.0011 ppm
Concentration per Run 1	-0.0019 ppm	0.0000 ppm	0.0002 ppm	427.1880 ppm	-0.0008 ppm	-0.0003 ppm	-0.0012 ppm
Concentration per Run 2	-0.0002 ppm	-0.0001 ppm	-0.0001 ppm	424.4319 ppm	-0.0009 ppm	-0.0001 ppm	-0.0005 ppm
Concentration per Run 3	0.0022 ppm	-0.0001 ppm	-0.0002 ppm	423.2082 ppm	-0.0006 ppm	0.0000 ppm	-0.0015 ppm
Concentration RSD	4,738.0 %	169.7 %	539.2 %	0.5 %	15.2 %	70.6 %	50.3 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0015 ppm	0.0015 ppm	0.0004 ppm	0.0000 ppm	-0.0003 ppm	-0.0004 ppm	0.0000 ppm
Concentration per Run 1	-0.0013 ppm	0.0021 ppm	0.0001 ppm	0.0000 ppm	-0.0001 ppm	0.0005 ppm	0.0000 ppm
Concentration per Run 2	-0.0012 ppm	0.0012 ppm	0.0006 ppm	0.0000 ppm	-0.0004 ppm	-0.0016 ppm	0.0001 ppm
Concentration per Run 3	-0.0019 ppm	0.0013 ppm	0.0006 ppm	0.0000 ppm	-0.0003 ppm	0.0001 ppm	-0.0002 ppm
Concentration RSD	28.2 %	31.4 %	73.7 %	1,677.7 %	45.0 %	312.6 %	752.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0005 ppm	94.0124 %	88.5567 %	91.7860 %	95.6293 %	79.1099 %	90.5721 %
Concentration per Run 1	0.0005 ppm	92.7972 %	89.0532 %	92.1997 %	95.0988 %	79.3400 %	91.0005 %
Concentration per Run 2	0.0006 ppm	93.7444 %	88.6610 %	91.8026 %	95.2833 %	79.3408 %	90.7629 %
Concentration per Run 3	0.0006 ppm	95.4957 %	87.9558 %	91.3559 %	96.5059 %	78.6490 %	89.9528 %
Concentration RSD	13.3 %	1.5 %	0.6 %	0.5 %	0.8 %	0.5 %	0.6 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: LLOQ 005 As pass
 Analysis started at: 9/20/2024 6:50:15 PM
 Comments: <Comment>
 Rack: 1
 Vial: 6

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0049 ppm	0.0081 ppm	0.0057 ppm	0.0100 ppm	0.0047 ppm	0.0048 ppm	0.0121 ppm
Concentration per Run 1	0.0047 ppm	0.0075 ppm	0.0060 ppm	0.0100 ppm	0.0046 ppm	0.0048 ppm	0.0108 ppm
Concentration per Run 2	0.0050 ppm	0.0116 ppm	0.0055 ppm	0.0100 ppm	0.0048 ppm	0.0049 ppm	0.0130 ppm
Concentration per Run 3	0.0050 ppm	0.0054 ppm	0.0055 ppm	0.0100 ppm	0.0048 ppm	0.0049 ppm	0.0124 ppm
Recovery Percentage 1	98.395 %	162.919 %	113.081 %	199.910 %	94.582 %	96.992 %	0.000 %
Concentration RSD	3.3 %	39.0 %	5.4 %	0.2 %	2.9 %	1.4 %	9.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0047 ppm	0.0048 ppm	0.0046 ppm	0.0044 ppm	0.0046 ppm	0.0659 ppm	0.0067 ppm
Concentration per Run 1	0.0047 ppm	0.0048 ppm	0.0047 ppm	0.0044 ppm	0.0051 ppm	0.0448 ppm	0.0060 ppm
Concentration per Run 2	0.0048 ppm	0.0049 ppm	0.0045 ppm	0.0045 ppm	0.0046 ppm	0.0636 ppm	0.0070 ppm
Concentration per Run 3	0.0047 ppm	0.0048 ppm	0.0045 ppm	0.0044 ppm	0.0040 ppm	0.0895 ppm	0.0070 ppm
Recovery Percentage 1	94.879 %	96.859 %	91.615 %	88.505 %	91.365 %	0.000 %	133.443 %
Concentration RSD	0.6 %	1.5 %	3.0 %	1.2 %	12.6 %	34.0 %	9.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0062 ppm	0.0049 ppm	0.0046 ppm	0.1097 ppm	0.0047 ppm	0.0052 ppm	0.0043 ppm
Concentration per Run 1	0.0061 ppm	0.0049 ppm	0.0046 ppm	0.1101 ppm	0.0045 ppm	0.0053 ppm	0.0040 ppm
Concentration per Run 2	0.0077 ppm	0.0048 ppm	0.0046 ppm	0.1107 ppm	0.0049 ppm	0.0049 ppm	0.0046 ppm
Concentration per Run 3	0.0049 ppm	0.0050 ppm	0.0046 ppm	0.1083 ppm	0.0048 ppm	0.0054 ppm	0.0043 ppm
Recovery Percentage 1	0.000 %	98.422 %	91.964 %	0.000 %	94.551 %	104.383 %	86.310 %
Concentration RSD	23.0 %	1.8 %	0.8 %	1.1 %	3.4 %	5.4 %	6.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0049 ppm	0.0516 ppm	0.0045 ppm	0.0046 ppm	0.0050 ppm	0.0050 ppm	0.0051 ppm
Concentration per Run 1	0.0042 ppm	0.0516 ppm	0.0047 ppm	0.0045 ppm	0.0050 ppm	0.0053 ppm	0.0051 ppm
Concentration per Run 2	0.0054 ppm	0.0514 ppm	0.0044 ppm	0.0046 ppm	0.0051 ppm	0.0053 ppm	0.0052 ppm
Concentration per Run 3	0.0051 ppm	0.0518 ppm	0.0045 ppm	0.0047 ppm	0.0047 ppm	0.0046 ppm	0.0050 ppm
Recovery Percentage 1	98.005 %	1,031.439 %	90.824 %	91.938 %	99.051 %	100.824 %	101.777 %
Concentration RSD	12.2 %	0.4 %	3.3 %	2.3 %	4.0 %	7.8 %	1.9 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0052 ppm	98.4294 %	100.4030 %	103.2701 %	99.3309 %	102.2515 %	101.7399 %
Concentration per Run 1	0.0052 ppm	98.9240 %	100.5658 %	103.4919 %	100.9767 %	102.4238 %	102.1062 %
Concentration per Run 2	0.0052 ppm	97.3454 %	100.3894 %	103.2833 %	98.3277 %	102.4030 %	101.6581 %
Concentration per Run 3	0.0053 ppm	99.0189 %	100.2538 %	103.0351 %	98.6882 %	101.9276 %	101.4554 %
Recovery Percentage 1	104.507 %						
Concentration RSD	0.7 %	1.0 %	0.2 %	0.2 %	1.4 %	0.3 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: LDR 20 B pass
 Analysis started at: 9/20/2024 6:56:39 PM
 Comments: <Comment>
 Rack: 1
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0005 ppm	0.0007 ppm	0.0038 ppm	18.5534 [SIC 20]	0.0001 ppm	0.0000 ppm	0.0038 ppm
Concentration per Run 1	-0.0004 ppm	-0.0001 ppm	0.0042 ppm	18.3872 ppm	0.0000 ppm	0.0000 ppm	0.0026 ppm
Concentration per Run 2	-0.0006 ppm	0.0026 ppm	0.0036 ppm	18.5320 ppm	0.0001 ppm	0.0000 ppm	0.0070 ppm
Concentration per Run 3	-0.0004 ppm	-0.0004 ppm	0.0036 ppm	18.7409 ppm	0.0001 ppm	0.0000 ppm	0.0018 ppm
Concentration RSD	17.2 %	248.5 %	9.0 %	1.0 %	72.7 %	1,117.5 %	73.0 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	-0.0003 ppm	-0.0001 ppm	-0.0018 ppm	0.0056 ppm	0.0020 ppm
Concentration per Run 1	0.0000 ppm	0.0001 ppm	-0.0005 ppm	-0.0002 ppm	-0.0019 ppm	0.0040 ppm	0.0016 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	-0.0002 ppm	-0.0002 ppm	-0.0018 ppm	0.0113 ppm	0.0024 ppm
Concentration per Run 3	0.0000 ppm	-0.0001 ppm	-0.0002 ppm	0.0000 ppm	-0.0017 ppm	0.0016 ppm	0.0019 ppm
Concentration RSD	190.0 %	159.1 %	43.9 %	58.7 %	5.9 %	89.6 %	20.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0018 ppm	-0.0001 ppm	0.0000 ppm	0.0102 ppm	-0.0001 ppm	-0.0001 ppm	-0.0003 ppm
Concentration per Run 1	0.0019 ppm	-0.0001 ppm	0.0000 ppm	0.0089 ppm	0.0000 ppm	-0.0002 ppm	-0.0012 ppm
Concentration per Run 2	0.0010 ppm	-0.0002 ppm	0.0000 ppm	0.0122 ppm	-0.0003 ppm	0.0004 ppm	0.0004 ppm
Concentration per Run 3	0.0025 ppm	0.0001 ppm	-0.0001 ppm	0.0094 ppm	0.0000 ppm	-0.0003 ppm	-0.0001 ppm
Concentration RSD	42.2 %	220.7 %	184.3 %	17.1 %	210.2 %	687.3 %	261.0 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0011 ppm	-0.0009 ppm	0.0004 ppm	0.0000 ppm	-0.0003 ppm	0.0002 ppm	0.0002 ppm
Concentration per Run 1	-0.0025 ppm	-0.0008 ppm	0.0002 ppm	-0.0001 ppm	-0.0002 ppm	0.0001 ppm	0.0003 ppm
Concentration per Run 2	-0.0001 ppm	-0.0010 ppm	0.0007 ppm	0.0000 ppm	-0.0005 ppm	0.0001 ppm	0.0001 ppm
Concentration per Run 3	-0.0006 ppm	-0.0008 ppm	0.0003 ppm	0.0000 ppm	-0.0002 ppm	0.0005 ppm	0.0003 ppm
Concentration RSD	118.7 %	11.9 %	71.4 %	149.4 %	51.6 %	98.2 %	46.7 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0004 ppm	96.3671 %	98.1536 %	102.1110 %	97.0411 %	100.2213 %	99.9129 %
Concentration per Run 1	0.0004 ppm	96.8512 %	98.4690 %	102.7222 %	98.3710 %	100.6482 %	100.4530 %
Concentration per Run 2	0.0004 ppm	96.3903 %	98.5006 %	102.0534 %	96.9287 %	100.0468 %	100.3320 %
Concentration per Run 3	0.0004 ppm	95.8597 %	97.4911 %	101.5574 %	95.8236 %	99.9690 %	98.9536 %
Concentration RSD	4.1 %	0.5 %	0.6 %	0.6 %	1.3 %	0.4 %	0.8 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: LDR 300 Na pass
 Analysis started at: 9/20/2024 7:03:01 PM
 Comments: <Comment>
 Rack: 1
 Vial: 7

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0003 ppm	0.0041 ppm	0.0018 ppm	0.0284 ppm	0.0001 ppm	0.0000 ppm	0.0066 ppm
Concentration per Run 1	-0.0006 ppm	0.0073 ppm	0.0021 ppm	0.0302 ppm	0.0001 ppm	0.0000 ppm	0.0094 ppm
Concentration per Run 2	-0.0003 ppm	0.0061 ppm	0.0020 ppm	0.0279 ppm	0.0001 ppm	0.0000 ppm	0.0070 ppm
Concentration per Run 3	0.0000 ppm	-0.0010 ppm	0.0015 ppm	0.0272 ppm	0.0001 ppm	0.0000 ppm	0.0036 ppm
Concentration RSD	113.9 %	109.5 %	17.6 %	5.5 %	45.2 %	89,591.9 %	44.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0002 ppm	-0.0002 ppm	0.0004 ppm	0.0002 ppm	0.0328 ppm	-0.0042 ppm
Concentration per Run 1	-0.0001 ppm	0.0002 ppm	-0.0001 ppm	0.0003 ppm	0.0011 ppm	0.0284 ppm	-0.0047 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	-0.0003 ppm	0.0003 ppm	-0.0001 ppm	0.0225 ppm	-0.0044 ppm
Concentration per Run 3	0.0000 ppm	0.0002 ppm	-0.0003 ppm	0.0005 ppm	-0.0005 ppm	0.0474 ppm	-0.0036 ppm
Concentration RSD	55.6 %	19.8 %	65.5 %	36.1 %	479.1 %	39.8 %	13.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0019 ppm	-0.0001 ppm	0.0001 ppm	278.5984 ppm	-0.0007 ppm	0.0000 ppm	-0.0007 ppm
Concentration per Run 1	0.0018 ppm	-0.0001 ppm	0.0001 ppm	281.3010 ppm	-0.0008 ppm	0.0002 ppm	-0.0008 ppm
Concentration per Run 2	0.0012 ppm	-0.0001 ppm	-0.0001 ppm	275.9046 ppm	-0.0006 ppm	0.0001 ppm	0.0000 ppm
Concentration per Run 3	0.0026 ppm	-0.0001 ppm	0.0001 ppm	278.5897 ppm	-0.0008 ppm	-0.0003 ppm	-0.0014 ppm
Concentration RSD	38.0 %	10.9 %	274.9 %	1.0 %	16.7 %	774.6 %	96.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0012 ppm	0.0011 ppm	0.0000 ppm	0.0000 ppm	0.0000 ppm	-0.0006 ppm	-0.0001 ppm
Concentration per Run 1	-0.0008 ppm	0.0010 ppm	0.0001 ppm	0.0000 ppm	0.0001 ppm	-0.0009 ppm	-0.0001 ppm
Concentration per Run 2	-0.0006 ppm	0.0012 ppm	-0.0003 ppm	0.0000 ppm	0.0000 ppm	-0.0008 ppm	-0.0003 ppm
Concentration per Run 3	-0.0022 ppm	0.0012 ppm	0.0003 ppm	0.0000 ppm	-0.0002 ppm	-0.0003 ppm	0.0002 ppm
Concentration RSD	69.9 %	10.9 %	6,272.8 %	266.5 %	939.1 %	48.1 %	323.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0007 ppm	92.8004 %	88.8114 %	93.1140 %	94.3105 %	82.0529 %	90.6796 %
Concentration per Run 1	0.0006 ppm	93.6733 %	88.7365 %	93.2940 %	96.5860 %	81.8937 %	90.5255 %
Concentration per Run 2	0.0007 ppm	92.1695 %	88.4907 %	92.6346 %	93.0439 %	81.6312 %	90.7396 %
Concentration per Run 3	0.0008 ppm	92.5584 %	89.2072 %	93.4133 %	93.3017 %	82.6340 %	90.7737 %
Concentration RSD	10.4 %	0.8 %	0.4 %	0.5 %	2.1 %	0.6 %	0.1 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: CCV
 Analysis started at: 9/20/2024 7:24:13 PM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5121 ppm	0.4995 ppm	0.4784 ppm	0.4874 ppm	0.4908 ppm	0.5151 ppm	0.5248 ppm
Concentration per Run 1	0.5131 ppm	0.4896 ppm	0.4815 ppm	0.4904 ppm	0.4772 ppm	0.5033 ppm	0.5152 ppm
Concentration per Run 2	0.5103 ppm	0.5002 ppm	0.4787 ppm	0.4871 ppm	0.4964 ppm	0.5192 ppm	0.5331 ppm
Concentration per Run 3	0.5130 ppm	0.5088 ppm	0.4751 ppm	0.4848 ppm	0.4988 ppm	0.5229 ppm	0.5261 ppm
Recovery Percentage 1	102.423 %	99.902 %	95.686 %	97.487 %	98.158 %	103.026 %	104.954 %
Concentration RSD	0.3 %	1.9 %	0.7 %	0.6 %	2.4 %	2.0 %	1.7 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.5031 ppm	0.4939 ppm	0.5158 ppm	0.4756 ppm	0.5204 ppm	5.1696 ppm	0.4757 ppm
Concentration per Run 1	0.5039 ppm	0.4955 ppm	0.5176 ppm	0.4778 ppm	0.5108 ppm	5.0732 ppm	0.4627 ppm
Concentration per Run 2	0.5045 ppm	0.4946 ppm	0.5154 ppm	0.4727 ppm	0.5243 ppm	5.1923 ppm	0.4815 ppm
Concentration per Run 3	0.5008 ppm	0.4916 ppm	0.5143 ppm	0.4764 ppm	0.5262 ppm	5.2434 ppm	0.4828 ppm
Recovery Percentage 1	100.611 %	98.779 %	103.156 %	95.121 %	104.086 %	103.393 %	95.136 %
Concentration RSD	0.4 %	0.4 %	0.3 %	0.6 %	1.6 %	1.7 %	2.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5173 ppm	0.5100 ppm	0.4741 ppm	9.6766 ppm	0.4988 ppm	0.4996 ppm	0.4764 ppm
Concentration per Run 1	0.5199 ppm	0.4974 ppm	0.4750 ppm	9.4409 ppm	0.5000 ppm	0.5028 ppm	0.4808 ppm
Concentration per Run 2	0.5147 ppm	0.5159 ppm	0.4751 ppm	9.7404 ppm	0.4999 ppm	0.4992 ppm	0.4743 ppm
Concentration per Run 3	0.5172 ppm	0.5166 ppm	0.4721 ppm	9.8485 ppm	0.4964 ppm	0.4967 ppm	0.4742 ppm
Recovery Percentage 1	103.452 %	101.997 %	94.815 %	96.766 %	99.753 %	99.914 %	95.288 %
Concentration RSD	0.5 %	2.1 %	0.4 %	2.2 %	0.4 %	0.6 %	0.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.4864 ppm	5.3011 ppm	0.4677 ppm	0.4666 ppm	0.5092 ppm	0.4979 ppm	0.5009 ppm
Concentration per Run 1	0.4892 ppm	5.3298 ppm	0.4692 ppm	0.4542 ppm	0.5122 ppm	0.5010 ppm	0.5040 ppm
Concentration per Run 2	0.4870 ppm	5.2951 ppm	0.4689 ppm	0.4719 ppm	0.5076 ppm	0.4974 ppm	0.4995 ppm
Concentration per Run 3	0.4830 ppm	5.2784 ppm	0.4651 ppm	0.4737 ppm	0.5079 ppm	0.4953 ppm	0.4994 ppm
Recovery Percentage 1	97.279 %	100.973 %	93.546 %	93.312 %	101.848 %	99.583 %	100.189 %
Concentration RSD	0.7 %	0.5 %	0.5 %	2.3 %	0.5 %	0.6 %	0.5 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5263 ppm	91.3384 %	94.0742 %	98.6616 %	92.9414 %	95.8015 %	96.3581 %
Concentration per Run 1	0.5273 ppm	91.7856 %	94.1656 %	98.3681 %	94.6263 %	95.7381 %	95.9463 %
Concentration per Run 2	0.5278 ppm	91.0557 %	94.0500 %	98.8491 %	92.4426 %	95.7765 %	96.6320 %
Concentration per Run 3	0.5237 ppm	91.1740 %	94.0071 %	98.7675 %	91.7553 %	95.8899 %	96.4961 %
Recovery Percentage 1	105.255 %						
Concentration RSD	0.4 %	0.4 %	0.1 %	0.3 %	1.6 %	0.1 %	0.4 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: CCB
 Analysis started at: 9/20/2024 7:30:15 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0003 ppm	0.0002 ppm	0.0002 ppm	0.0091 ppm	0.0002 ppm	0.0000 ppm	0.0032 ppm
Concentration per Run 1	-0.0005 ppm	0.0009 ppm	0.0004 ppm	0.0093 ppm	0.0002 ppm	0.0000 ppm	0.0024 ppm
Concentration per Run 2	0.0001 ppm	0.0022 ppm	-0.0009 ppm	0.0092 ppm	0.0001 ppm	0.0000 ppm	0.0040 ppm
Concentration per Run 3	-0.0004 ppm	-0.0024 ppm	0.0012 ppm	0.0088 ppm	0.0002 ppm	0.0000 ppm	0.0033 ppm
Recovery Percentage 1	-3.803 %	0.216 %	4.930 %	30.396 %	1.518 %	-0.545 %	3.226 %
Concentration RSD	108.5 %	1,082.6 %	417.8 %	2.8 %	35.0 %	68.7 %	24.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0001 ppm	0.0000 ppm	-0.0007 ppm	-0.0002 ppm	-0.0012 ppm	-0.0048 ppm	0.0019 ppm
Concentration per Run 1	-0.0001 ppm	0.0001 ppm	-0.0008 ppm	-0.0002 ppm	-0.0011 ppm	-0.0222 ppm	0.0014 ppm
Concentration per Run 2	-0.0001 ppm	-0.0001 ppm	-0.0007 ppm	0.0000 ppm	-0.0023 ppm	-0.0003 ppm	0.0024 ppm
Concentration per Run 3	-0.0001 ppm	0.0000 ppm	-0.0007 ppm	-0.0002 ppm	-0.0002 ppm	0.0082 ppm	0.0018 ppm
Recovery Percentage 1	-1.303 %	0.011 %	-7.360 %	-1.553 %	-2.392 %	-0.191 %	18.789 %
Concentration RSD	2.0 %	4,205.7 %	4.2 %	68.7 %	88.5 %	328.4 %	28.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0007 ppm	0.0000 ppm	0.0000 ppm	0.0068 ppm	-0.0003 ppm	0.0004 ppm	-0.0006 ppm
Concentration per Run 1	0.0011 ppm	-0.0001 ppm	0.0000 ppm	-0.0007 ppm	0.0000 ppm	0.0006 ppm	-0.0013 ppm
Concentration per Run 2	0.0002 ppm	0.0000 ppm	0.0000 ppm	0.0122 ppm	-0.0005 ppm	-0.0001 ppm	0.0005 ppm
Concentration per Run 3	0.0007 ppm	-0.0001 ppm	0.0000 ppm	0.0088 ppm	-0.0003 ppm	0.0007 ppm	-0.0011 ppm
Recovery Percentage 1	0.651 %	-0.450 %	-0.031 %	0.339 %	-1.101 %	3.946 %	-1.226 %
Concentration RSD	71.9 %	174.4 %	204.3 %	98.6 %	84.7 %	104.9 %	164.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0006 ppm	-0.0012 ppm	0.0002 ppm	0.0000 ppm	-0.0003 ppm	0.0001 ppm	0.0002 ppm
Concentration per Run 1	-0.0032 ppm	-0.0010 ppm	0.0003 ppm	0.0000 ppm	-0.0002 ppm	-0.0007 ppm	0.0003 ppm
Concentration per Run 2	0.0019 ppm	-0.0015 ppm	-0.0001 ppm	0.0000 ppm	-0.0002 ppm	0.0005 ppm	0.0000 ppm
Concentration per Run 3	-0.0004 ppm	-0.0011 ppm	0.0003 ppm	-0.0001 ppm	-0.0003 ppm	0.0005 ppm	0.0004 ppm
Recovery Percentage 1	-5.642 %	-0.240 %	0.347 %	-0.046 %	-2.508 %	0.466 %	2.202 %
Concentration RSD	451.0 %	25.1 %	130.6 %	140.2 %	21.1 %	750.5 %	99.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0002 ppm	92.9579 %	96.8936 %	100.3138 %	94.5850 %	99.1341 %	98.4068 %
Concentration per Run 1	0.0002 ppm	93.4700 %	97.1147 %	100.5470 %	97.0467 %	99.2666 %	98.6776 %
Concentration per Run 2	0.0002 ppm	92.7809 %	96.9830 %	100.3068 %	93.6043 %	98.9811 %	98.4368 %
Concentration per Run 3	0.0003 ppm	92.6230 %	96.5831 %	100.0877 %	93.1038 %	99.1545 %	98.1061 %
Recovery Percentage 1	4.816 %						
Concentration RSD	36.0 %	0.5 %	0.3 %	0.2 %	2.3 %	0.1 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453066-03 WG1973932
 Analysis started at: 9/20/2024 7:45:33 PM
 Comments: <Comment>
 Rack: 1
 Vial: 8

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.0826 ppm	0.0025 ppm	0.0295 ppm	0.0078 ppm	0.0000 ppm	69.1066 ppm
Concentration per Run 1	0.0000 ppm	0.0801 ppm	0.0022 ppm	0.0298 ppm	0.0074 ppm	0.0000 ppm	66.5968 ppm
Concentration per Run 2	-0.0005 ppm	0.0879 ppm	0.0024 ppm	0.0296 ppm	0.0081 ppm	0.0000 ppm	70.7960 ppm
Concentration per Run 3	-0.0001 ppm	0.0799 ppm	0.0029 ppm	0.0290 ppm	0.0078 ppm	0.0000 ppm	69.9270 ppm
Concentration RSD	123.9 %	5.5 %	13.8 %	1.5 %	4.4 %	57.6 %	3.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0004 ppm	0.0008 ppm	-0.0002 ppm	0.0014 ppm	1.9567 ppm	7.1717 ppm	0.0124 ppm
Concentration per Run 1	-0.0004 ppm	0.0009 ppm	-0.0001 ppm	0.0014 ppm	1.8751 ppm	6.8527 ppm	0.0119 ppm
Concentration per Run 2	-0.0004 ppm	0.0006 ppm	-0.0002 ppm	0.0014 ppm	2.0139 ppm	7.3724 ppm	0.0129 ppm
Concentration per Run 3	-0.0004 ppm	0.0009 ppm	-0.0003 ppm	0.0013 ppm	1.9812 ppm	7.2899 ppm	0.0125 ppm
Concentration RSD	4.8 %	20.6 %	56.3 %	6.0 %	3.7 %	3.9 %	4.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	15.1520 ppm	0.4985 ppm	0.0003 ppm	45.8158 ppm	0.0033 ppm	-0.0012 ppm	0.0006 ppm
Concentration per Run 1	15.1779 ppm	0.4790 ppm	0.0003 ppm	43.8615 ppm	0.0035 ppm	-0.0016 ppm	0.0012 ppm
Concentration per Run 2	15.1345 ppm	0.5111 ppm	0.0002 ppm	47.3150 ppm	0.0035 ppm	-0.0010 ppm	0.0005 ppm
Concentration per Run 3	15.1437 ppm	0.5054 ppm	0.0005 ppm	46.2710 ppm	0.0030 ppm	-0.0009 ppm	0.0001 ppm
Concentration RSD	0.2 %	3.4 %	33.7 %	3.9 %	8.0 %	30.3 %	94.0 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0001 ppm	10.2773 ppm	-0.0002 ppm	0.4186 ppm	0.0087 ppm	-0.0007 ppm	0.0006 ppm
Concentration per Run 1	0.0001 ppm	10.3772 ppm	-0.0001 ppm	0.4009 ppm	0.0088 ppm	0.0006 ppm	0.0009 ppm
Concentration per Run 2	0.0011 ppm	10.3341 ppm	-0.0004 ppm	0.4315 ppm	0.0086 ppm	-0.0010 ppm	0.0005 ppm
Concentration per Run 3	-0.0008 ppm	10.1207 ppm	0.0000 ppm	0.4235 ppm	0.0086 ppm	-0.0016 ppm	0.0005 ppm
Concentration RSD	741.3 %	1.3 %	120.9 %	3.8 %	1.2 %	168.8 %	37.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0023 ppm	94.2910 %	93.8801 %	97.4268 %	95.3211 %	89.9596 %	95.0272 %
Concentration per Run 1	0.0022 ppm	96.9489 %	94.0621 %	98.5139 %	98.8507 %	89.2428 %	95.1323 %
Concentration per Run 2	0.0023 ppm	93.5209 %	93.6877 %	96.8945 %	93.6574 %	89.4387 %	95.1303 %
Concentration per Run 3	0.0023 ppm	92.4032 %	93.8905 %	98.8719 %	93.4552 %	91.1973 %	94.8189 %
Concentration RSD	1.7 %	2.5 %	0.2 %	1.3 %	3.2 %	1.2 %	0.2 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453069-01 WG1973932
 Analysis started at: 9/20/2024 7:51:51 PM
 Comments: <Comment>
 Rack: 1
 Vial: 9

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.0839 ppm	0.0028 ppm	0.0089 ppm	0.0050 ppm	0.0000 ppm	1.5266 ppm
Concentration per Run 1	-0.0001 ppm	0.0798 ppm	0.0031 ppm	0.0090 ppm	0.0047 ppm	0.0000 ppm	1.4728 ppm
Concentration per Run 2	-0.0002 ppm	0.0878 ppm	0.0023 ppm	0.0089 ppm	0.0051 ppm	0.0000 ppm	1.5402 ppm
Concentration per Run 3	-0.0002 ppm	0.0841 ppm	0.0030 ppm	0.0089 ppm	0.0051 ppm	0.0000 ppm	1.5667 ppm
Concentration RSD	57.2 %	4.7 %	15.9 %	0.7 %	3.8 %	32.9 %	3.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	-0.0008 ppm	0.0007 ppm	0.4710 ppm	0.4929 ppm	0.0023 ppm
Concentration per Run 1	-0.0001 ppm	0.0001 ppm	-0.0005 ppm	0.0006 ppm	0.4548 ppm	0.4914 ppm	0.0025 ppm
Concentration per Run 2	0.0000 ppm	0.0000 ppm	-0.0010 ppm	0.0006 ppm	0.4727 ppm	0.4942 ppm	0.0015 ppm
Concentration per Run 3	0.0000 ppm	0.0002 ppm	-0.0009 ppm	0.0008 ppm	0.4855 ppm	0.4930 ppm	0.0028 ppm
Concentration RSD	43.8 %	126.7 %	32.6 %	14.5 %	3.3 %	0.3 %	30.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.4562 ppm	0.0220 ppm	-0.0001 ppm	9.5154 ppm	-0.0003 ppm	0.0004 ppm	-0.0001 ppm
Concentration per Run 1	0.4563 ppm	0.0210 ppm	-0.0002 ppm	9.1886 ppm	-0.0003 ppm	0.0004 ppm	0.0004 ppm
Concentration per Run 2	0.4538 ppm	0.0224 ppm	0.0001 ppm	9.5853 ppm	-0.0003 ppm	0.0004 ppm	-0.0005 ppm
Concentration per Run 3	0.4585 ppm	0.0227 ppm	-0.0001 ppm	9.7724 ppm	-0.0003 ppm	0.0005 ppm	-0.0001 ppm
Concentration RSD	0.5 %	4.1 %	178.1 %	3.1 %	18.1 %	12.5 %	544.7 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0003 ppm	1.0779 ppm	-0.0003 ppm	0.0127 ppm	0.0008 ppm	0.0000 ppm	0.0004 ppm
Concentration per Run 1	0.0003 ppm	1.0797 ppm	0.0003 ppm	0.0123 ppm	0.0008 ppm	-0.0004 ppm	0.0003 ppm
Concentration per Run 2	-0.0017 ppm	1.0752 ppm	-0.0006 ppm	0.0128 ppm	0.0008 ppm	0.0005 ppm	0.0005 ppm
Concentration per Run 3	0.0007 ppm	1.0787 ppm	-0.0005 ppm	0.0131 ppm	0.0008 ppm	-0.0002 ppm	0.0004 ppm
Concentration RSD	489.9 %	0.2 %	187.4 %	3.1 %	2.3 %	2,814.9 %	23.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0040 ppm	98.3652 %	97.8233 %	99.8040 %	100.1900 %	98.6536 %	99.5724 %
Concentration per Run 1	0.0040 ppm	100.8475 %	97.8001 %	99.9514 %	103.8094 %	98.8267 %	99.6909 %
Concentration per Run 2	0.0040 ppm	96.6824 %	98.0482 %	99.7958 %	98.8936 %	98.7651 %	99.8825 %
Concentration per Run 3	0.0040 ppm	97.5657 %	97.6215 %	99.6648 %	97.8670 %	98.3689 %	99.1437 %
Concentration RSD	0.6 %	2.2 %	0.2 %	0.1 %	3.2 %	0.3 %	0.4 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453069-02 WG1973932
 Analysis started at: 9/20/2024 7:58:11 PM
 Comments: <Comment>
 Rack: 1
 Vial: 10

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.1322 ppm	0.0038 ppm	0.0079 ppm	0.0056 ppm	0.0000 ppm	1.8506 ppm
Concentration per Run 1	-0.0003 ppm	0.1299 ppm	0.0042 ppm	0.0080 ppm	0.0056 ppm	0.0000 ppm	1.8241 ppm
Concentration per Run 2	-0.0006 ppm	0.1338 ppm	0.0041 ppm	0.0079 ppm	0.0056 ppm	0.0000 ppm	1.8662 ppm
Concentration per Run 3	0.0002 ppm	0.1329 ppm	0.0030 ppm	0.0079 ppm	0.0055 ppm	0.0001 ppm	1.8615 ppm
Concentration RSD	189.6 %	1.6 %	17.4 %	0.9 %	0.6 %	30.0 %	1.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0006 ppm	-0.0007 ppm	0.0012 ppm	0.7655 ppm	0.6091 ppm	0.0024 ppm
Concentration per Run 1	0.0000 ppm	0.0006 ppm	-0.0009 ppm	0.0011 ppm	0.7526 ppm	0.6148 ppm	0.0020 ppm
Concentration per Run 2	-0.0001 ppm	0.0007 ppm	-0.0007 ppm	0.0013 ppm	0.7730 ppm	0.6178 ppm	0.0024 ppm
Concentration per Run 3	0.0000 ppm	0.0005 ppm	-0.0006 ppm	0.0013 ppm	0.7709 ppm	0.5946 ppm	0.0029 ppm
Concentration RSD	34.0 %	12.9 %	18.4 %	10.6 %	1.5 %	2.1 %	18.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5297 ppm	0.1299 ppm	-0.0001 ppm	11.3345 ppm	0.0000 ppm	0.0004 ppm	-0.0001 ppm
Concentration per Run 1	0.5291 ppm	0.1276 ppm	-0.0001 ppm	11.1158 ppm	0.0001 ppm	0.0004 ppm	-0.0002 ppm
Concentration per Run 2	0.5322 ppm	0.1308 ppm	-0.0001 ppm	11.4162 ppm	0.0000 ppm	0.0006 ppm	0.0002 ppm
Concentration per Run 3	0.5280 ppm	0.1314 ppm	0.0000 ppm	11.4714 ppm	-0.0002 ppm	0.0001 ppm	-0.0005 ppm
Concentration RSD	0.4 %	1.6 %	75.9 %	1.7 %	373.4 %	78.3 %	265.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0007 ppm	1.9589 ppm	-0.0002 ppm	0.0139 ppm	0.0015 ppm	-0.0008 ppm	0.0005 ppm
Concentration per Run 1	0.0007 ppm	1.9588 ppm	-0.0002 ppm	0.0136 ppm	0.0016 ppm	-0.0012 ppm	0.0005 ppm
Concentration per Run 2	-0.0005 ppm	1.9490 ppm	0.0001 ppm	0.0140 ppm	0.0017 ppm	-0.0011 ppm	0.0003 ppm
Concentration per Run 3	-0.0025 ppm	1.9689 ppm	-0.0004 ppm	0.0141 ppm	0.0012 ppm	-0.0002 ppm	0.0007 ppm
Concentration RSD	218.0 %	0.5 %	119.1 %	1.7 %	16.6 %	71.1 %	42.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0055 ppm	96.4363 %	96.6767 %	98.9432 %	97.9365 %	96.8744 %	98.1186 %
Concentration per Run 1	0.0055 ppm	96.055 %	96.8496 %	99.1065 %	99.5734 %	96.9470 %	98.4206 %
Concentration per Run 2	0.0055 ppm	95.9159 %	96.5652 %	98.8627 %	96.7502 %	97.1236 %	97.9472 %
Concentration per Run 3	0.0055 ppm	96.4145 %	96.6154 %	98.8604 %	97.4860 %	96.5526 %	97.9882 %
Concentration RSD	0.5 %	0.6 %	0.2 %	0.1 %	1.5 %	0.3 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453069-03 WG1973932
 Analysis started at: 9/20/2024 8:04:31 PM
 Comments: <Comment>
 Rack: 1
 Vial: 11

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.0838 ppm	0.0033 ppm	0.0078 ppm	0.0060 ppm	0.0000 ppm	1.5581 ppm
Concentration per Run 1	0.0000 ppm	0.0832 ppm	0.0033 ppm	0.0079 ppm	0.0058 ppm	0.0000 ppm	1.5241 ppm
Concentration per Run 2	-0.0001 ppm	0.0824 ppm	0.0031 ppm	0.0079 ppm	0.0061 ppm	0.0000 ppm	1.5711 ppm
Concentration per Run 3	-0.0004 ppm	0.0858 ppm	0.0033 ppm	0.0077 ppm	0.0062 ppm	0.0000 ppm	1.5790 ppm
Concentration RSD	146.7 %	2.1 %	3.8 %	1.3 %	3.5 %	637.5 %	1.9 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0002 ppm	-0.0007 ppm	0.0006 ppm	0.4500 ppm	0.5314 ppm	0.0024 ppm
Concentration per Run 1	0.0000 ppm	0.0000 ppm	-0.0008 ppm	0.0007 ppm	0.4396 ppm	0.5348 ppm	0.0022 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	-0.0006 ppm	0.0007 ppm	0.4566 ppm	0.5317 ppm	0.0026 ppm
Concentration per Run 3	0.0000 ppm	0.0003 ppm	-0.0008 ppm	0.0005 ppm	0.4538 ppm	0.5278 ppm	0.0023 ppm
Concentration RSD	50.5 %	84.1 %	18.7 %	12.6 %	2.0 %	0.7 %	7.6 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.4650 ppm	0.0216 ppm	0.0000 ppm	9.9774 ppm	-0.0002 ppm	0.0003 ppm	-0.0008 ppm
Concentration per Run 1	0.4641 ppm	0.0211 ppm	0.0000 ppm	9.7896 ppm	-0.0004 ppm	0.0004 ppm	-0.0006 ppm
Concentration per Run 2	0.4647 ppm	0.0219 ppm	0.0000 ppm	10.0437 ppm	-0.0001 ppm	0.0002 ppm	-0.0008 ppm
Concentration per Run 3	0.4662 ppm	0.0219 ppm	-0.0001 ppm	10.0989 ppm	-0.0002 ppm	0.0004 ppm	-0.0011 ppm
Concentration RSD	0.2 %	2.2 %	230.1 %	1.7 %	71.3 %	40.1 %	28.0 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0001 ppm	1.0572 ppm	-0.0004 ppm	0.0131 ppm	0.0010 ppm	-0.0002 ppm	0.0003 ppm
Concentration per Run 1	0.0000 ppm	1.0559 ppm	-0.0003 ppm	0.0128 ppm	0.0007 ppm	0.0003 ppm	0.0003 ppm
Concentration per Run 2	-0.0013 ppm	1.0576 ppm	-0.0005 ppm	0.0132 ppm	0.0013 ppm	-0.0008 ppm	0.0004 ppm
Concentration per Run 3	0.0011 ppm	1.0581 ppm	-0.0003 ppm	0.0133 ppm	0.0009 ppm	-0.0001 ppm	0.0002 ppm
Concentration RSD	2,058.9 %	0.1 %	36.3 %	1.9 %	30.3 %	341.9 %	30.0 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0039 ppm	95.5990 %	96.2946 %	98.4961 %	97.3888 %	96.8602 %	98.1477 %
Concentration per Run 1	0.0039 ppm	96.6694 %	96.3586 %	98.7055 %	100.1662 %	97.2678 %	98.1580 %
Concentration per Run 2	0.0040 ppm	95.0362 %	96.2285 %	98.4608 %	96.1702 %	96.8380 %	98.4193 %
Concentration per Run 3	0.0039 ppm	95.0913 %	96.2967 %	98.3220 %	95.8299 %	96.4749 %	97.8656 %
Concentration RSD	1.3 %	1.0 %	0.1 %	0.2 %	2.5 %	0.4 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: eL2453695-01 WG1973932
 Analysis started at: 9/20/2024 8:10:51 PM
 Comments: <Comment>
 Rack: 1
 Vial: 12

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0009 ppm	33.5179 ppm	0.0153 ppm	0.0769 ppm	0.5597 ppm	0.0018 ppm	298.0314 ppm
Concentration per Run 1	0.0009 ppm	33.0589 ppm	0.0151 ppm	0.0767 ppm	0.5516 ppm	0.0018 ppm	298.5477 ppm
Concentration per Run 2	0.0011 ppm	33.6843 ppm	0.0163 ppm	0.0769 ppm	0.5619 ppm	0.0018 ppm	296.3010 ppm
Concentration per Run 3	0.0007 ppm	33.8106 ppm	0.0145 ppm	0.0769 ppm	0.5657 ppm	0.0018 ppm	299.2454 ppm
Concentration RSD	21.9 %	1.2 %	5.9 %	0.1 %	1.3 %	1.2 %	0.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0135 ppm	0.0620 ppm	0.0575 ppm	0.2588 ppm	73.9202 ppm	5.5440 ppm	0.0765 ppm
Concentration per Run 1	0.0133 ppm	0.0618 ppm	0.0578 ppm	0.2591 ppm	73.1413 ppm	5.4860 ppm	0.0752 ppm
Concentration per Run 2	0.0135 ppm	0.0621 ppm	0.0571 ppm	0.2578 ppm	74.2368 ppm	5.5649 ppm	0.0766 ppm
Concentration per Run 3	0.0135 ppm	0.0620 ppm	0.0575 ppm	0.2596 ppm	74.3827 ppm	5.5809 ppm	0.0776 ppm
Concentration RSD	0.8 %	0.3 %	0.6 %	0.3 %	0.9 %	0.9 %	1.6 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	116.7559 ppm	25.0229 [SIC 30]	0.0011 ppm	7.5603 ppm	0.1429 ppm	0.1219 ppm	0.0031 ppm
Concentration per Run 1	116.7692 ppm	24.9379 ppm	0.0009 ppm	7.4438 ppm	0.1425 ppm	0.1213 ppm	0.0052 ppm
Concentration per Run 2	116.2862 ppm	25.1642 ppm	0.0012 ppm	7.6045 ppm	0.1431 ppm	0.1221 ppm	0.0014 ppm
Concentration per Run 3	117.2124 ppm	24.9665 ppm	0.0011 ppm	7.6325 ppm	0.1432 ppm	0.1224 ppm	0.0028 ppm
Concentration RSD	0.4 %	0.5 %	15.0 %	1.3 %	0.3 %	0.4 %	61.0 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0016 ppm	52.3299 [SIC 50]	0.0005 ppm	0.3588 ppm	0.1389 ppm	-0.0490 ppm	0.0559 ppm
Concentration per Run 1	-0.0030 ppm	52.2814 ppm	-0.0001 ppm	0.3538 ppm	0.1390 ppm	-0.0497 ppm	0.0563 ppm
Concentration per Run 2	-0.0007 ppm	52.3026 ppm	0.0005 ppm	0.3601 ppm	0.1387 ppm	-0.0488 ppm	0.0560 ppm
Concentration per Run 3	-0.0012 ppm	52.4056 ppm	0.0010 ppm	0.3626 ppm	0.1390 ppm	-0.0486 ppm	0.0554 ppm
Concentration RSD	74.6 %	0.1 %	117.3 %	1.3 %	0.1 %	1.1 %	0.9 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	1.5364 ppm	114.2858 %	109.2473 %	112.4059 %	98.3800 %	80.9955 %	94.0068 %
Concentration per Run 1	1.5326 ppm	113.8390 %	108.9425 %	112.5799 %	99.4837 %	81.0689 %	93.8148 %
Concentration per Run 2	1.5403 ppm	114.1214 %	109.5338 %	112.7566 %	97.9345 %	81.1492 %	94.2781 %
Concentration per Run 3	1.5362 ppm	114.8972 %	109.2656 %	111.8811 %	97.7217 %	80.7683 %	93.9276 %
Concentration RSD	0.3 %	0.5 %	0.3 %	0.4 %	1.0 %	0.2 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: eL2453695-02 WG1973932
 Analysis started at: 9/20/2024 8:17:26 PM
 Comments: <Comment>
 Rack: 1
 Vial: 13

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	38.8676 ppm	0.0523 ppm	0.2967 ppm	0.6121 ppm	0.0027 ppm	381.7799 ppm
Concentration per Run 1	0.0000 ppm	38.5970 ppm	0.0528 ppm	0.2957 ppm	0.6081 ppm	0.0027 ppm	384.1103 ppm
Concentration per Run 2	0.0000 ppm	39.1213 ppm	0.0520 ppm	0.2974 ppm	0.6147 ppm	0.0027 ppm	382.4193 ppm
Concentration per Run 3	0.0000 ppm	38.8845 ppm	0.0520 ppm	0.2971 ppm	0.6134 ppm	0.0027 ppm	378.8101 ppm
Concentration RSD	381.0 %	0.7 %	0.9 %	0.3 %	0.6 %	0.3 %	0.7 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0115 ppm	0.0854 ppm	0.0638 ppm	0.6923 ppm	129.5316 ppm	13.5312 ppm	0.0755 ppm
Concentration per Run 1	0.0114 ppm	0.0853 ppm	0.0639 ppm	0.6907 ppm	128.5146 ppm	13.4296 ppm	0.0754 ppm
Concentration per Run 2	0.0115 ppm	0.0857 ppm	0.0635 ppm	0.6918 ppm	131.0335 ppm	13.6077 ppm	0.0756 ppm
Concentration per Run 3	0.0115 ppm	0.0852 ppm	0.0641 ppm	0.6943 ppm	129.0467 ppm	13.5564 ppm	0.0756 ppm
Concentration RSD	0.8 %	0.3 %	0.5 %	0.3 %	1.0 %	0.7 %	0.1 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	128.7309 ppm	2.6045 ppm	0.0169 ppm	6.1591 ppm	0.1548 ppm	0.1662 ppm	0.0007 ppm
Concentration per Run 1	130.2839 ppm	2.5780 ppm	0.0171 ppm	6.1398 ppm	0.1548 ppm	0.1665 ppm	0.0005 ppm
Concentration per Run 2	127.8757 ppm	2.6256 ppm	0.0168 ppm	6.1717 ppm	0.1550 ppm	0.1659 ppm	-0.0002 ppm
Concentration per Run 3	128.0331 ppm	2.6098 ppm	0.0169 ppm	6.1658 ppm	0.1546 ppm	0.1663 ppm	0.0017 ppm
Concentration RSD	1.0 %	0.9 %	1.0 %	0.3 %	0.1 %	0.2 %	143.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0092 ppm	55.5692 {SIC 50}	0.0011 ppm	0.8015 ppm	0.1493 ppm	-0.0056 ppm	0.1105 ppm
Concentration per Run 1	0.0099 ppm	55.5333 ppm	0.0013 ppm	0.7964 ppm	0.1498 ppm	-0.0061 ppm	0.1105 ppm
Concentration per Run 2	0.0104 ppm	55.6209 ppm	0.0009 ppm	0.8054 ppm	0.1486 ppm	-0.0053 ppm	0.1104 ppm
Concentration per Run 3	0.0075 ppm	55.5534 ppm	0.0010 ppm	0.8028 ppm	0.1496 ppm	-0.0055 ppm	0.1107 ppm
Concentration RSD	16.9 %	0.1 %	21.4 %	0.6 %	0.4 %	7.5 %	0.1 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	1.2948 ppm	121.7623 %	113.2704 %	114.1046 %	97.6013 %	76.1839 %	91.3058 %
Concentration per Run 1	1.2945 ppm	122.0863 %	113.2104 %	114.3491 %	98.7670 %	76.3378 %	91.1267 %
Concentration per Run 2	1.2912 ppm	121.5084 %	113.5285 %	113.9467 %	96.7540 %	76.2282 %	91.6685 %
Concentration per Run 3	1.2986 ppm	121.6921 %	113.0724 %	114.0180 %	97.2828 %	75.9857 %	91.1222 %
Concentration RSD	0.3 %	0.2 %	0.2 %	0.2 %	1.1 %	0.2 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: eL2453695-03 WG1973932
 Analysis started at: 9/20/2024 8:23:57 PM
 Comments: <Comment>
 Rack: 1
 Vial: 14

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0005 ppm	104.3549 ppm	0.0656 ppm	0.2587 ppm	1.8687 ppm	0.0198 ppm	496.3602 ppm
Concentration per Run 1	0.0004 ppm	104.1526 ppm	0.0653 ppm	0.2584 ppm	1.8685 ppm	0.0197 ppm	494.5840 ppm
Concentration per Run 2	0.0006 ppm	103.9036 ppm	0.0656 ppm	0.2579 ppm	1.8746 ppm	0.0198 ppm	499.8902 ppm
Concentration per Run 3	0.0005 ppm	105.0083 ppm	0.0659 ppm	0.2599 ppm	1.8630 ppm	0.0199 ppm	494.6065 ppm
Concentration RSD	21.3 %	0.6 %	0.5 %	0.4 %	0.3 %	0.4 %	0.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0054 ppm	0.1968 ppm	0.1414 ppm	0.8003 ppm	224.3687 [SIC 500]	11.6979 ppm	0.2452 ppm
Concentration per Run 1	0.0052 ppm	0.1970 ppm	0.1412 ppm	0.7997 ppm	226.0484 ppm	11.6683 ppm	0.2436 ppm
Concentration per Run 2	0.0054 ppm	0.1962 ppm	0.1417 ppm	0.8013 ppm	223.4347 ppm	11.6579 ppm	0.2445 ppm
Concentration per Run 3	0.0056 ppm	0.1970 ppm	0.1413 ppm	0.7999 ppm	223.6229 ppm	11.7675 ppm	0.2474 ppm
Concentration RSD	4.0 %	0.2 %	0.2 %	0.1 %	0.6 %	0.5 %	0.8 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	122.3539 ppm	6.5755 ppm	-0.0002 ppm	2.8037 ppm	0.4219 ppm	0.5863 ppm	-0.0033 ppm
Concentration per Run 1	122.9512 ppm	6.5511 ppm	-0.0005 ppm	2.7961 ppm	0.4228 ppm	0.5867 ppm	-0.0030 ppm
Concentration per Run 2	122.0676 ppm	6.5848 ppm	-0.0001 ppm	2.7940 ppm	0.4197 ppm	0.5855 ppm	-0.0039 ppm
Concentration per Run 3	122.0431 ppm	6.5905 ppm	0.0001 ppm	2.8208 ppm	0.4232 ppm	0.5866 ppm	-0.0030 ppm
Concentration RSD	0.4 %	0.3 %	184.5 %	0.5 %	0.5 %	0.1 %	16.0 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0056 ppm	121.1377 [SIC 50]	0.0023 ppm	1.0245 ppm	0.0477 ppm	-0.0149 ppm	0.1880 ppm
Concentration per Run 1	0.0049 ppm	121.0811 ppm	0.0023 ppm	1.0194 ppm	0.0482 ppm	-0.0137 ppm	0.1874 ppm
Concentration per Run 2	0.0062 ppm	120.8325 ppm	0.0023 ppm	1.0214 ppm	0.0473 ppm	-0.0149 ppm	0.1885 ppm
Concentration per Run 3	0.0056 ppm	121.4995 ppm	0.0022 ppm	1.0325 ppm	0.0475 ppm	-0.0160 ppm	0.1883 ppm
Concentration RSD	11.7 %	0.3 %	3.0 %	0.7 %	1.0 %	7.6 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	2.3634 ppm	196.6533 %	181.2401 %	183.8182 %	99.6631 %	76.1589 %	92.4638 %
Concentration per Run 1	2.3709 ppm	197.8509 %	181.1724 %	184.2264 %	100.4126 %	76.3253 %	92.6849 %
Concentration per Run 2	2.3562 ppm	195.6777 %	181.1900 %	184.0608 %	99.5445 %	76.3711 %	92.2095 %
Concentration per Run 3	2.3632 ppm	196.4315 %	181.3580 %	183.1676 %	99.0322 %	75.7803 %	92.4971 %
Concentration RSD	0.3 %	0.6 %	0.1 %	0.3 %	0.7 %	0.4 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453695-01d2 WG1973932
 Analysis started at: 9/20/2024 8:30:36 PM
 Comments: <Comment>
 Rack: 1
 Vial: 15

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0004 ppm	17.5608 ppm	0.0088 ppm	0.0396 ppm	0.2853 ppm	0.0009 ppm	152.9464 ppm
Concentration per Run 1	0.0004 ppm	17.4427 ppm	0.0094 ppm	0.0397 ppm	0.2830 ppm	0.0009 ppm	150.8125 ppm
Concentration per Run 2	0.0003 ppm	17.6790 ppm	0.0086 ppm	0.0393 ppm	0.2877 ppm	0.0009 ppm	154.0603 ppm
Concentration per Run 3	0.0003 ppm	17.5607 ppm	0.0085 ppm	0.0397 ppm	0.2850 ppm	0.0009 ppm	153.9664 ppm
Concentration RSD	11.0 %	0.7 %	5.7 %	0.7 %	0.8 %	2.7 %	1.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0069 ppm	0.0316 ppm	0.0310 ppm	0.1328 ppm	39.3970 ppm	2.9130 ppm	0.0397 ppm
Concentration per Run 1	0.0068 ppm	0.0317 ppm	0.0311 ppm	0.1323 ppm	39.2017 ppm	2.8769 ppm	0.0382 ppm
Concentration per Run 2	0.0068 ppm	0.0316 ppm	0.0310 ppm	0.1328 ppm	39.5708 ppm	2.9335 ppm	0.0408 ppm
Concentration per Run 3	0.0069 ppm	0.0315 ppm	0.0309 ppm	0.1334 ppm	39.4184 ppm	2.9286 ppm	0.0402 ppm
Concentration RSD	0.2 %	0.5 %	0.2 %	0.4 %	0.5 %	1.1 %	3.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	60.9005 ppm	13.1983 ppm	0.0006 ppm	3.8050 ppm	0.0726 ppm	0.0624 ppm	0.0020 ppm
Concentration per Run 1	60.8449 ppm	13.1233 ppm	0.0007 ppm	3.7721 ppm	0.0724 ppm	0.0618 ppm	0.0020 ppm
Concentration per Run 2	60.8696 ppm	13.2686 ppm	0.0005 ppm	3.8445 ppm	0.0729 ppm	0.0626 ppm	0.0015 ppm
Concentration per Run 3	60.9869 ppm	13.2028 ppm	0.0006 ppm	3.7984 ppm	0.0724 ppm	0.0629 ppm	0.0023 ppm
Concentration RSD	0.1 %	0.6 %	13.9 %	1.0 %	0.3 %	0.9 %	21.4 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0014 ppm	27.0971 {SIC 50}	0.0004 ppm	0.1832 ppm	0.0820 ppm	-0.0240 ppm	0.0362 ppm
Concentration per Run 1	0.0012 ppm	27.0713 ppm	0.0004 ppm	0.1818 ppm	0.0812 ppm	-0.0251 ppm	0.0362 ppm
Concentration per Run 2	-0.0024 ppm	27.1397 ppm	0.0003 ppm	0.1847 ppm	0.0815 ppm	-0.0243 ppm	0.0361 ppm
Concentration per Run 3	-0.0030 ppm	27.0803 ppm	0.0005 ppm	0.1832 ppm	0.0832 ppm	-0.0226 ppm	0.0364 ppm
Concentration RSD	164.4 %	0.1 %	24.8 %	0.8 %	1.3 %	5.3 %	0.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.7814 ppm	107.8650 %	104.7894 %	107.0097 %	101.0002 %	87.1712 %	97.3692 %
Concentration per Run 1	0.7842 ppm	107.3342 %	104.7955 %	107.3695 %	101.7747 %	87.2948 %	97.6769 %
Concentration per Run 2	0.7800 ppm	108.2958 %	105.0066 %	107.0026 %	101.1584 %	87.0551 %	97.5396 %
Concentration per Run 3	0.7799 ppm	107.9650 %	104.5661 %	106.6571 %	100.0675 %	87.1637 %	96.8910 %
Concentration RSD	0.3 %	0.5 %	0.2 %	0.3 %	0.9 %	0.1 %	0.4 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: CCV
 Analysis started at: 9/20/2024 8:36:54 PM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.5019 ppm	0.4924 ppm	0.4729 ppm	0.4751 ppm	0.4774 ppm	0.5016 ppm	0.5028 ppm
Concentration per Run 1	0.5009 ppm	0.4760 ppm	0.4735 ppm	0.4743 ppm	0.4643 ppm	0.4874 ppm	0.4838 ppm
Concentration per Run 2	0.5011 ppm	0.4985 ppm	0.4714 ppm	0.4743 ppm	0.4837 ppm	0.5098 ppm	0.5137 ppm
Concentration per Run 3	0.5036 ppm	0.5026 ppm	0.4738 ppm	0.4767 ppm	0.4841 ppm	0.5077 ppm	0.5109 ppm
Recovery Percentage 1	100.375 %	98.472 %	94.587 %	95.021 %	95.474 %	100.324 %	100.560 %
Concentration RSD	0.3 %	2.9 %	0.3 %	0.3 %	2.4 %	2.5 %	3.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.4879 ppm	0.4854 ppm	0.5007 ppm	0.4706 ppm	0.5075 ppm	5.0908 ppm	0.4651 ppm
Concentration per Run 1	0.4874 ppm	0.4851 ppm	0.5005 ppm	0.4698 ppm	0.4935 ppm	4.9166 ppm	0.4540 ppm
Concentration per Run 2	0.4880 ppm	0.4846 ppm	0.5004 ppm	0.4691 ppm	0.5177 ppm	5.2022 ppm	0.4705 ppm
Concentration per Run 3	0.4883 ppm	0.4866 ppm	0.5010 ppm	0.4728 ppm	0.5114 ppm	5.1537 ppm	0.4707 ppm
Recovery Percentage 1	97.578 %	97.082 %	100.131 %	94.119 %	101.510 %	101.817 %	93.011 %
Concentration RSD	0.1 %	0.2 %	0.1 %	0.4 %	2.5 %	3.0 %	2.1 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.5033 ppm	0.4931 ppm	0.4672 ppm	9.5868 ppm	0.4914 ppm	0.4944 ppm	0.4760 ppm
Concentration per Run 1	0.5037 ppm	0.4802 ppm	0.4667 ppm	9.3247 ppm	0.4902 ppm	0.4948 ppm	0.4770 ppm
Concentration per Run 2	0.5029 ppm	0.5006 ppm	0.4667 ppm	9.7375 ppm	0.4913 ppm	0.4935 ppm	0.4722 ppm
Concentration per Run 3	0.5034 ppm	0.4986 ppm	0.4682 ppm	9.6983 ppm	0.4928 ppm	0.4949 ppm	0.4787 ppm
Recovery Percentage 1	100.669 %	98.627 %	93.442 %	95.868 %	98.285 %	98.888 %	95.194 %
Concentration RSD	0.1 %	2.3 %	0.2 %	2.4 %	0.3 %	0.2 %	0.7 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.4863 ppm	5.2872 ppm	0.4601 ppm	0.4547 ppm	0.4972 ppm	0.4981 ppm	0.4861 ppm
Concentration per Run 1	0.4863 ppm	5.2809 ppm	0.4583 ppm	0.4420 ppm	0.4968 ppm	0.4974 ppm	0.4854 ppm
Concentration per Run 2	0.4850 ppm	5.2756 ppm	0.4594 ppm	0.4609 ppm	0.4966 ppm	0.4969 ppm	0.4860 ppm
Concentration per Run 3	0.4877 ppm	5.3051 ppm	0.4625 ppm	0.4612 ppm	0.4982 ppm	0.5001 ppm	0.4870 ppm
Recovery Percentage 1	97.266 %	100.709 %	92.014 %	90.940 %	99.441 %	99.628 %	97.222 %
Concentration RSD	0.3 %	0.3 %	0.5 %	2.4 %	0.2 %	0.3 %	0.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5078 ppm	96.4452 %	97.0708 %	100.4354 %	97.7344 %	98.0714 %	99.5746 %
Concentration per Run 1	0.5073 ppm	97.5342 %	97.0702 %	100.6872 %	100.9068 %	98.2852 %	99.6104 %
Concentration per Run 2	0.5088 ppm	95.2342 %	96.9310 %	100.3139 %	95.6867 %	98.0717 %	99.5610 %
Concentration per Run 3	0.5074 ppm	96.5672 %	97.2111 %	100.3053 %	96.6098 %	97.8573 %	99.5524 %
Recovery Percentage 1	101.569 %						
Concentration RSD	0.2 %	1.2 %	0.1 %	0.2 %	2.9 %	0.2 %	0.0 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: CCB
 Analysis started at: 9/20/2024 8:42:57 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0037 ppm	0.0007 ppm	0.0016 ppm	0.0001 ppm	0.0000 ppm	0.0026 ppm
Concentration per Run 1	-0.0002 ppm	0.0044 ppm	0.0011 ppm	0.0017 ppm	0.0001 ppm	0.0000 ppm	0.0061 ppm
Concentration per Run 2	0.0000 ppm	0.0037 ppm	0.0018 ppm	0.0013 ppm	0.0002 ppm	0.0000 ppm	-0.0022 ppm
Concentration per Run 3	-0.0002 ppm	0.0030 ppm	-0.0006 ppm	0.0017 ppm	0.0001 ppm	0.0000 ppm	0.0039 ppm
Recovery Percentage 1	-2.066 %	3.718 %	14.939 %	5.180 %	1.237 %	-0.578 %	2.602 %
Concentration RSD	108.0 %	18.4 %	168.7 %	13.6 %	19.7 %	93.0 %	165.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	-0.0006 ppm	-0.0001 ppm	-0.0014 ppm	-0.0222 ppm	0.0007 ppm
Concentration per Run 1	0.0000 ppm	0.0000 ppm	-0.0004 ppm	-0.0002 ppm	-0.0012 ppm	0.0195 ppm	0.0002 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	-0.0006 ppm	-0.0001 ppm	-0.0008 ppm	-0.0311 ppm	0.0007 ppm
Concentration per Run 3	0.0000 ppm	0.0001 ppm	-0.0007 ppm	-0.0001 ppm	-0.0022 ppm	-0.0550 ppm	0.0011 ppm
Recovery Percentage 1	-0.669 %	0.448 %	-5.701 %	-1.327 %	-2.881 %	-0.888 %	6.967 %
Concentration RSD	39.5 %	96.7 %	34.5 %	69.7 %	50.8 %	171.2 %	65.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0011 ppm	-0.0002 ppm	0.0000 ppm	-0.0009 ppm	-0.0002 ppm	-0.0001 ppm	-0.0001 ppm
Concentration per Run 1	-0.0029 ppm	-0.0002 ppm	0.0001 ppm	-0.0008 ppm	-0.0002 ppm	-0.0005 ppm	-0.0007 ppm
Concentration per Run 2	-0.0001 ppm	-0.0002 ppm	0.0000 ppm	-0.0006 ppm	-0.0003 ppm	-0.0001 ppm	0.0000 ppm
Concentration per Run 3	-0.0005 ppm	-0.0004 ppm	-0.0001 ppm	-0.0014 ppm	-0.0001 ppm	0.0003 ppm	0.0005 ppm
Recovery Percentage 1	-1.141 %	-2.336 %	-0.014 %	-0.047 %	-0.807 %	-0.814 %	-0.162 %
Concentration RSD	134.8 %	49.5 %	1,126.3 %	44.4 %	42.7 %	481.0 %	765.5 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0001 ppm	-0.0010 ppm	0.0001 ppm	0.0000 ppm	-0.0002 ppm	-0.0005 ppm	0.0001 ppm
Concentration per Run 1	0.0005 ppm	-0.0010 ppm	-0.0003 ppm	0.0000 ppm	-0.0001 ppm	-0.0006 ppm	0.0001 ppm
Concentration per Run 2	-0.0002 ppm	-0.0017 ppm	0.0002 ppm	0.0000 ppm	-0.0003 ppm	-0.0004 ppm	0.0002 ppm
Concentration per Run 3	0.0000 ppm	-0.0004 ppm	0.0003 ppm	0.0000 ppm	-0.0003 ppm	-0.0005 ppm	0.0000 ppm
Recovery Percentage 1	0.875 %	-0.207 %	0.134 %	-0.211 %	-2.136 %	-2.515 %	1.168 %
Concentration RSD	411.3 %	62.3 %	510.3 %	46.3 %	45.6 %	21.9 %	123.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0003 ppm	94.7777 %	99.9719 %	102.9648 %	95.9198 %	102.9929 %	102.0474 %
Concentration per Run 1	0.0003 ppm	96.0063 %	100.1687 %	103.2536 %	98.4526 %	103.1725 %	102.1767 %
Concentration per Run 2	0.0002 ppm	94.7792 %	99.9251 %	102.7966 %	95.6359 %	102.6814 %	102.0849 %
Concentration per Run 3	0.0004 ppm	93.5474 %	99.8218 %	102.8443 %	93.6708 %	103.1247 %	101.8805 %
Recovery Percentage 1	5.594 %						
Concentration RSD	30.0 %	1.3 %	0.2 %	0.2 %	2.5 %	0.3 %	0.1 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453695-02d2 WG1973932
 Analysis started at: 9/20/2024 9:06:31 PM
 Comments: <Comment>
 Rack: 1
 Vial: 16

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	20.2629 ppm	0.0265 ppm	0.1463 ppm	0.3196 ppm	0.0014 ppm	204.0027 ppm
Concentration per Run 1	0.0000 ppm	19.9703 ppm	0.0272 ppm	0.1467 ppm	0.3149 ppm	0.0014 ppm	199.2746 ppm
Concentration per Run 2	-0.0001 ppm	20.2916 ppm	0.0269 ppm	0.1463 ppm	0.3198 ppm	0.0014 ppm	206.0808 ppm
Concentration per Run 3	0.0000 ppm	20.5266 ppm	0.0255 ppm	0.1460 ppm	0.3242 ppm	0.0015 ppm	206.6527 ppm
Concentration RSD	153.8 %	1.4 %	3.4 %	0.2 %	1.5 %	3.7 %	2.0 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0058 ppm	0.0430 ppm	0.0344 ppm	0.3569 ppm	70.9046 ppm	7.0008 ppm	0.0386 ppm
Concentration per Run 1	0.0058 ppm	0.0430 ppm	0.0349 ppm	0.3594 ppm	69.7567 ppm	6.9225 ppm	0.0376 ppm
Concentration per Run 2	0.0058 ppm	0.0431 ppm	0.0350 ppm	0.3626 ppm	70.9763 ppm	7.0319 ppm	0.0388 ppm
Concentration per Run 3	0.0058 ppm	0.0430 ppm	0.0333 ppm	0.3486 ppm	71.9807 ppm	7.0479 ppm	0.0395 ppm
Concentration RSD	0.1 %	0.1 %	2.8 %	2.1 %	1.6 %	1.0 %	2.6 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	69.9296 ppm	1.3986 ppm	0.0083 ppm	3.1628 ppm	0.0764 ppm	0.0838 ppm	0.0008 ppm
Concentration per Run 1	70.4947 ppm	1.3733 ppm	0.0083 ppm	3.1340 ppm	0.0767 ppm	0.0839 ppm	-0.0002 ppm
Concentration per Run 2	71.0089 ppm	1.4044 ppm	0.0083 ppm	3.1526 ppm	0.0761 ppm	0.0839 ppm	0.0010 ppm
Concentration per Run 3	68.2851 ppm	1.4180 ppm	0.0082 ppm	3.2019 ppm	0.0763 ppm	0.0835 ppm	0.0016 ppm
Concentration RSD	2.1 %	1.6 %	0.6 %	1.1 %	0.4 %	0.3 %	118.5 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0039 ppm	27.4395 {SIC 50}	0.0006 ppm	0.4188 ppm	0.0789 ppm	-0.0017 ppm	0.0579 ppm
Concentration per Run 1	0.0053 ppm	27.5180 ppm	0.0009 ppm	0.4122 ppm	0.0783 ppm	-0.0022 ppm	0.0585 ppm
Concentration per Run 2	0.0039 ppm	27.3884 ppm	0.0004 ppm	0.4195 ppm	0.0820 ppm	-0.0015 ppm	0.0585 ppm
Concentration per Run 3	0.0025 ppm	27.4122 ppm	0.0006 ppm	0.4246 ppm	0.0763 ppm	-0.0015 ppm	0.0567 ppm
Concentration RSD	36.0 %	0.3 %	37.6 %	1.5 %	3.7 %	23.6 %	1.7 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.6577 ppm	109.8939 %	106.1484 %	111.1904 %	99.7355 %	86.2922 %	96.2060 %
Concentration per Run 1	0.6609 ppm	110.7655 %	105.5487 %	111.3116 %	101.9883 %	86.2323 %	95.5040 %
Concentration per Run 2	0.6563 ppm	109.0719 %	104.6400 %	111.2911 %	99.0773 %	86.4107 %	95.0259 %
Concentration per Run 3	0.6558 ppm	109.8442 %	108.2566 %	110.9686 %	98.1409 %	86.2337 %	98.0880 %
Concentration RSD	0.4 %	0.8 %	1.8 %	0.2 %	2.0 %	0.1 %	1.7 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453695-03d5 WG1973932
 Analysis started at: 9/20/2024 9:12:46 PM
 Comments: <Comment>
 Rack: 1
 Vial: 17

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	23.5650 ppm	0.0142 ppm	0.0516 ppm	0.3804 ppm	0.0042 ppm	105.3993 ppm
Concentration per Run 1	0.0001 ppm	23.0126 ppm	0.0131 ppm	0.0517 ppm	0.3715 ppm	0.0041 ppm	102.8405 ppm
Concentration per Run 2	0.0001 ppm	23.7439 ppm	0.0138 ppm	0.0512 ppm	0.3831 ppm	0.0042 ppm	106.3265 ppm
Concentration per Run 3	-0.0001 ppm	23.9385 ppm	0.0157 ppm	0.0520 ppm	0.3866 ppm	0.0043 ppm	107.0308 ppm
Concentration RSD	409.0 %	2.1 %	9.6 %	0.8 %	2.1 %	1.7 %	2.1 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0012 ppm	0.0428 ppm	0.0352 ppm	0.1686 ppm	53.5210 ppm	2.3136 ppm	0.0556 ppm
Concentration per Run 1	0.0012 ppm	0.0428 ppm	0.0353 ppm	0.1683 ppm	52.3824 ppm	2.2300 ppm	0.0541 ppm
Concentration per Run 2	0.0011 ppm	0.0427 ppm	0.0351 ppm	0.1691 ppm	53.8039 ppm	2.3646 ppm	0.0566 ppm
Concentration per Run 3	0.0012 ppm	0.0429 ppm	0.0351 ppm	0.1685 ppm	54.3767 ppm	2.3463 ppm	0.0561 ppm
Concentration RSD	2.6 %	0.3 %	0.3 %	0.3 %	1.9 %	3.2 %	2.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	27.6451 ppm	1.4269 ppm	-0.0002 ppm	0.4809 ppm	0.0907 ppm	0.1242 ppm	-0.0003 ppm
Concentration per Run 1	27.5418 ppm	1.3901 ppm	-0.0001 ppm	0.4691 ppm	0.0909 ppm	0.1239 ppm	-0.0005 ppm
Concentration per Run 2	27.7072 ppm	1.4382 ppm	-0.0001 ppm	0.4858 ppm	0.0908 ppm	0.1243 ppm	0.0000 ppm
Concentration per Run 3	27.6863 ppm	1.4524 ppm	-0.0002 ppm	0.4877 ppm	0.0905 ppm	0.1243 ppm	-0.0003 ppm
Concentration RSD	0.3 %	2.3 %	50.0 %	2.1 %	0.3 %	0.2 %	87.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0006 ppm	24.6325 {SIC 50}	0.0006 ppm	0.2078 ppm	0.0131 ppm	-0.0026 ppm	0.0425 ppm
Concentration per Run 1	-0.0030 ppm	24.5618 ppm	0.0005 ppm	0.2030 ppm	0.0169 ppm	-0.0021 ppm	0.0424 ppm
Concentration per Run 2	0.0013 ppm	24.5953 ppm	0.0003 ppm	0.2094 ppm	0.0111 ppm	-0.0026 ppm	0.0428 ppm
Concentration per Run 3	0.0000 ppm	24.7404 ppm	0.0009 ppm	0.2111 ppm	0.0114 ppm	-0.0031 ppm	0.0424 ppm
Concentration RSD	389.1 %	0.4 %	56.5 %	2.0 %	24.9 %	20.6 %	0.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.4957 ppm	120.0910 %	118.5186 %	122.1543 %	102.0211 %	90.8258 %	100.0664 %
Concentration per Run 1	0.4974 ppm	121.6736 %	118.6055 %	122.5600 %	104.8914 %	91.2842 %	100.1838 %
Concentration per Run 2	0.4940 ppm	119.6174 %	118.7971 %	122.2564 %	101.2316 %	90.9245 %	100.1958 %
Concentration per Run 3	0.4958 ppm	118.9821 %	118.1531 %	121.6464 %	99.9403 %	90.2685 %	99.8197 %
Concentration RSD	0.3 %	1.2 %	0.3 %	0.4 %	2.5 %	0.6 %	0.2 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453058-02 WG1973498
 Analysis started at: 9/20/2024 9:18:55 PM
 Comments: <Comment>
 Rack: 1
 Vial: 18

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0002 ppm	0.0483 ppm	0.0019 ppm	0.0216 ppm	0.0150 ppm	0.0000 ppm	18.5009 ppm
Concentration per Run 1	0.0002 ppm	0.0475 ppm	0.0021 ppm	0.0216 ppm	0.0147 ppm	0.0000 ppm	18.2627 ppm
Concentration per Run 2	-0.0006 ppm	0.0471 ppm	0.0018 ppm	0.0217 ppm	0.0148 ppm	0.0000 ppm	18.2309 ppm
Concentration per Run 3	-0.0001 ppm	0.0505 ppm	0.0017 ppm	0.0215 ppm	0.0155 ppm	0.0000 ppm	19.0092 ppm
Concentration RSD	264.0 %	3.8 %	10.0 %	0.5 %	3.1 %	55.8 %	2.4 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0001 ppm	0.0001 ppm	0.0002 ppm	0.0004 ppm	0.0721 ppm	1.5246 ppm	0.0000 ppm
Concentration per Run 1	-0.0001 ppm	0.0000 ppm	0.0001 ppm	0.0004 ppm	0.0719 ppm	1.5166 ppm	-0.0005 ppm
Concentration per Run 2	-0.0001 ppm	0.0001 ppm	0.0002 ppm	0.0004 ppm	0.0709 ppm	1.5019 ppm	0.0002 ppm
Concentration per Run 3	-0.0001 ppm	0.0001 ppm	0.0002 ppm	0.0003 ppm	0.0734 ppm	1.5553 ppm	0.0002 ppm
Concentration RSD	13.4 %	58.5 %	33.9 %	20.2 %	1.8 %	1.8 %	2,199.0 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	6.2386 ppm	0.0041 ppm	0.0001 ppm	12.7664 ppm	-0.0002 ppm	-0.0003 ppm	0.0002 ppm
Concentration per Run 1	6.2304 ppm	0.0041 ppm	0.0000 ppm	12.5604 ppm	-0.0003 ppm	0.0003 ppm	0.0004 ppm
Concentration per Run 2	6.2453 ppm	0.0040 ppm	0.0002 ppm	12.6302 ppm	0.0000 ppm	-0.0007 ppm	0.0002 ppm
Concentration per Run 3	6.2401 ppm	0.0043 ppm	0.0003 ppm	13.1087 ppm	-0.0002 ppm	-0.0005 ppm	0.0000 ppm
Concentration RSD	0.1 %	4.0 %	94.3 %	2.3 %	96.6 %	160.8 %	122.7 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0001 ppm	2.8427 ppm	0.0000 ppm	0.0739 ppm	0.0020 ppm	-0.0010 ppm	0.0004 ppm
Concentration per Run 1	-0.0007 ppm	2.8315 ppm	-0.0001 ppm	0.0727 ppm	0.0019 ppm	-0.0006 ppm	0.0002 ppm
Concentration per Run 2	0.0005 ppm	2.8476 ppm	0.0001 ppm	0.0729 ppm	0.0020 ppm	-0.0009 ppm	0.0005 ppm
Concentration per Run 3	-0.0001 ppm	2.8489 ppm	0.0000 ppm	0.0761 ppm	0.0020 ppm	-0.0014 ppm	0.0005 ppm
Concentration RSD	685.2 %	0.3 %	1,644.1 %	2.6 %	4.4 %	40.6 %	38.7 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0013 ppm	99.2574 %	97.9030 %	100.9833 %	101.9390 %	97.9911 %	101.2504 %
Concentration per Run 1	0.0013 ppm	100.4110 %	98.2406 %	101.5218 %	104.1123 %	98.3058 %	101.4806 %
Concentration per Run 2	0.0013 ppm	100.3932 %	97.8698 %	100.9707 %	103.1199 %	97.9446 %	101.0654 %
Concentration per Run 3	0.0013 ppm	96.9680 %	97.5985 %	100.4574 %	98.5849 %	97.7229 %	101.2053 %
Concentration RSD	1.7 %	2.0 %	0.3 %	0.5 %	2.9 %	0.3 %	0.2 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: xL2453058-03 WG1973498
 Analysis started at: 9/20/2024 9:25:13 PM
 Comments: <Comment>
 Rack: 1
 Vial: 19

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0387 ppm	0.0020 ppm	0.0226 ppm	0.0162 ppm	0.0000 ppm	19.5321 ppm
Concentration per Run 1	-0.0001 ppm	0.0414 ppm	0.0025 ppm	0.0226 ppm	0.0162 ppm	0.0000 ppm	19.6279 ppm
Concentration per Run 2	0.0000 ppm	0.0379 ppm	0.0016 ppm	0.0226 ppm	0.0162 ppm	0.0000 ppm	19.6179 ppm
Concentration per Run 3	0.0000 ppm	0.0370 ppm	N/A	N/A	0.0163 ppm	0.0000 ppm	19.3504 ppm
Concentration RSD	188.2 %	5.9 %	30.2 %	0.1 %	0.3 %	69.0 %	0.8 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0001 ppm	0.0000 ppm	-0.0001 ppm	0.0004 ppm	0.0754 ppm	1.6170 ppm	0.0002 ppm
Concentration per Run 1	-0.0001 ppm	0.0001 ppm	0.0002 ppm	0.0004 ppm	0.0761 ppm	1.5988 ppm	0.0003 ppm
Concentration per Run 2	-0.0001 ppm	-0.0001 ppm	-0.0003 ppm	0.0004 ppm	0.0753 ppm	1.6315 ppm	0.0003 ppm
Concentration per Run 3	N/A	N/A	0.0000 ppm	0.0005 ppm	0.0749 ppm	1.6206 ppm	-0.0001 ppm
Concentration RSD	1.2 %	728.6 %	425.0 %	20.3 %	0.8 %	1.0 %	150.6 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	6.2823 ppm	0.0035 ppm	0.0001 ppm	13.7614 ppm	-0.0002 ppm	-0.0001 ppm	0.0004 ppm
Concentration per Run 1	6.2818 ppm	0.0035 ppm	0.0001 ppm	13.6967 ppm	-0.0003 ppm	-0.0001 ppm	0.0003 ppm
Concentration per Run 2	6.2898 ppm	0.0035 ppm	0.0001 ppm	13.8535 ppm	-0.0001 ppm	-0.0001 ppm	0.0004 ppm
Concentration per Run 3	6.2753 ppm	0.0034 ppm	N/A	13.7341 ppm	N/A	N/A	N/A
Concentration RSD	0.1 %	1.4 %	26.0 %	0.6 %	96.4 %	46.5 %	27.9 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0000 ppm	3.0237 ppm	-0.0003 ppm	0.0803 ppm	0.0019 ppm	-0.0004 ppm	0.0005 ppm
Concentration per Run 1	-0.0019 ppm	3.0347 ppm	-0.0005 ppm	0.0803 ppm	0.0018 ppm	-0.0005 ppm	0.0007 ppm
Concentration per Run 2	0.0018 ppm	3.0128 ppm	-0.0002 ppm	0.0807 ppm	0.0020 ppm	-0.0002 ppm	0.0003 ppm
Concentration per Run 3	N/A	N/A	N/A	0.0798 ppm	0.0019 ppm	N/A	0.0004 ppm
Concentration RSD	8,462.9 %	0.5 %	66.7 %	0.6 %	4.8 %	50.7 %	35.9 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0011 ppm	99.3750 %	97.2952 %	97.8046 %	100.2471 %	94.0920 %	99.8655 %
Concentration per Run 1	0.0011 ppm	98.5174 %	97.5247 %	97.8626 %	99.9208 %	93.9522 %	100.2152 %
Concentration per Run 2	0.0011 ppm	99.5272 %	97.3627 %	97.7466 %	99.9547 %	94.2317 %	99.9640 %
Concentration per Run 3	N/A	100.0803 %	96.9981 %	N/A	100.8658 %	N/A	99.4172 %
Concentration RSD	1.7 %	0.8 %	0.3 %	0.1 %	0.5 %	0.2 %	0.4 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453252-01 WG1973498
 Analysis started at: 9/20/2024 9:31:32 PM
 Comments: <Comment>
 Rack: 1
 Vial: 20

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0001 ppm	0.7531 ppm	0.0039 ppm	0.0698 ppm	0.1431 ppm	0.0000 ppm	84.0559 ppm
Concentration per Run 1	0.0004 ppm	0.7367 ppm	0.0037 ppm	0.0697 ppm	0.1396 ppm	0.0000 ppm	82.3863 ppm
Concentration per Run 2	-0.0002 ppm	0.7566 ppm	0.0045 ppm	0.0698 ppm	0.1436 ppm	0.0000 ppm	84.6900 ppm
Concentration per Run 3	0.0001 ppm	0.7661 ppm	0.0036 ppm	0.0700 ppm	0.1461 ppm	0.0000 ppm	85.0913 ppm
Concentration RSD	360.6 %	2.0 %	12.7 %	0.3 %	2.3 %	519.5 %	1.7 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0004 ppm	0.0058 ppm	0.0006 ppm	0.0085 ppm	1.4421 ppm	2.5130 ppm	0.0209 ppm
Concentration per Run 1	-0.0004 ppm	0.0058 ppm	0.0007 ppm	0.0086 ppm	1.4087 ppm	2.4723 ppm	0.0199 ppm
Concentration per Run 2	-0.0004 ppm	0.0058 ppm	0.0007 ppm	0.0087 ppm	1.4462 ppm	2.5045 ppm	0.0212 ppm
Concentration per Run 3	-0.0004 ppm	0.0059 ppm	0.0004 ppm	0.0084 ppm	1.4712 ppm	2.5622 ppm	0.0215 ppm
Concentration RSD	5.5 %	1.1 %	23.8 %	1.4 %	2.2 %	1.8 %	4.1 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	17.8529 ppm	0.6145 ppm	0.0073 ppm	40.5583 ppm	0.0026 ppm	0.0056 ppm	0.0015 ppm
Concentration per Run 1	17.7471 ppm	0.6026 ppm	0.0072 ppm	39.6562 ppm	0.0030 ppm	0.0057 ppm	0.0006 ppm
Concentration per Run 2	17.9238 ppm	0.6192 ppm	0.0073 ppm	40.5374 ppm	0.0023 ppm	0.0058 ppm	0.0020 ppm
Concentration per Run 3	17.8879 ppm	0.6219 ppm	0.0075 ppm	41.4811 ppm	0.0025 ppm	0.0052 ppm	0.0018 ppm
Concentration RSD	0.5 %	1.7 %	1.5 %	2.3 %	13.4 %	5.5 %	49.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0008 ppm	5.4310 ppm	0.0005 ppm	1.1033 ppm	0.0047 ppm	0.0000 ppm	0.0017 ppm
Concentration per Run 1	0.0001 ppm	5.4307 ppm	0.0005 ppm	1.0765 ppm	0.0045 ppm	-0.0006 ppm	0.0019 ppm
Concentration per Run 2	0.0018 ppm	5.4369 ppm	0.0008 ppm	1.1081 ppm	0.0048 ppm	0.0010 ppm	0.0015 ppm
Concentration per Run 3	0.0006 ppm	5.4255 ppm	0.0001 ppm	1.1252 ppm	0.0049 ppm	-0.0004 ppm	0.0018 ppm
Concentration RSD	107.7 %	0.1 %	77.0 %	2.2 %	4.3 %	4,633.0 %	12.2 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0238 ppm	96.4489 %	93.7806 %	95.9477 %	98.4890 %	88.7233 %	95.6429 %
Concentration per Run 1	0.0239 ppm	97.4306 %	94.0904 %	96.3521 %	100.6833 %	88.8242 %	95.9402 %
Concentration per Run 2	0.0238 ppm	95.4907 %	93.8050 %	95.9152 %	97.4715 %	88.7927 %	95.5581 %
Concentration per Run 3	0.0237 ppm	96.4254 %	93.4463 %	95.5756 %	97.3121 %	88.5529 %	95.4304 %
Concentration RSD	0.3 %	1.0 %	0.3 %	0.4 %	1.9 %	0.2 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453252-02 WG1973498
 Analysis started at: 9/20/2024 9:37:49 PM
 Comments: <Comment>
 Rack: 1
 Vial: 21

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0001 ppm	0.1015 ppm	0.0259 ppm	0.0423 ppm	0.0514 ppm	0.0000 ppm	43.0060 ppm
Concentration per Run 1	0.0001 ppm	0.1023 ppm	0.0268 ppm	0.0423 ppm	0.0512 ppm	0.0000 ppm	42.8313 ppm
Concentration per Run 2	0.0003 ppm	0.0992 ppm	0.0256 ppm	0.0422 ppm	0.0509 ppm	0.0000 ppm	42.6429 ppm
Concentration per Run 3	-0.0001 ppm	0.1031 ppm	0.0254 ppm	0.0423 ppm	0.0521 ppm	0.0000 ppm	43.5438 ppm
Concentration RSD	188.0 %	2.0 %	2.8 %	0.2 %	1.3 %	46.6 %	1.1 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0002 ppm	0.0036 ppm	0.0008 ppm	0.0013 ppm	7.5504 ppm	5.4917 ppm	0.0035 ppm
Concentration per Run 1	-0.0002 ppm	0.0035 ppm	0.0008 ppm	0.0013 ppm	7.5090 ppm	5.5122 ppm	0.0028 ppm
Concentration per Run 2	-0.0002 ppm	0.0036 ppm	0.0009 ppm	0.0014 ppm	7.4982 ppm	5.4179 ppm	0.0038 ppm
Concentration per Run 3	-0.0002 ppm	0.0036 ppm	0.0008 ppm	0.0013 ppm	7.6441 ppm	5.5450 ppm	0.0038 ppm
Concentration RSD	14.5 %	1.0 %	11.7 %	4.0 %	1.1 %	1.2 %	15.5 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	4.9797 ppm	10.1151 ppm	0.0006 ppm	5.1590 ppm	0.0008 ppm	0.0007 ppm	0.0000 ppm
Concentration per Run 1	5.0344 ppm	10.0690 ppm	0.0007 ppm	5.1565 ppm	0.0006 ppm	0.0010 ppm	0.0002 ppm
Concentration per Run 2	4.9558 ppm	10.0204 ppm	0.0006 ppm	5.1031 ppm	0.0010 ppm	0.0003 ppm	0.0000 ppm
Concentration per Run 3	4.9489 ppm	10.2557 ppm	0.0005 ppm	5.2176 ppm	0.0008 ppm	0.0008 ppm	-0.0002 ppm
Concentration RSD	1.0 %	1.2 %	18.1 %	1.1 %	24.2 %	49.1 %	2,124.8 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0011 ppm	6.3771 ppm	0.0000 ppm	0.1889 ppm	0.0005 ppm	-0.0162 ppm	0.0031 ppm
Concentration per Run 1	-0.0019 ppm	6.3929 ppm	0.0002 ppm	0.1884 ppm	0.0007 ppm	-0.0161 ppm	0.0032 ppm
Concentration per Run 2	-0.0006 ppm	6.3653 ppm	-0.0002 ppm	0.1869 ppm	0.0004 ppm	-0.0153 ppm	0.0029 ppm
Concentration per Run 3	-0.0009 ppm	6.3730 ppm	0.0000 ppm	0.1913 ppm	0.0004 ppm	-0.0170 ppm	0.0031 ppm
Concentration RSD	59.6 %	0.2 %	994.4 %	1.2 %	32.9 %	5.1 %	5.6 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0102 ppm	99.0369 %	98.2690 %	102.1668 %	100.7321 %	96.6644 %	100.2221 %
Concentration per Run 1	0.0102 ppm	99.2075 %	97.4549 %	102.3910 %	101.8618 %	96.8273 %	99.4398 %
Concentration per Run 2	0.0101 ppm	100.0337 %	98.5128 %	102.2493 %	101.0744 %	96.6714 %	100.1951 %
Concentration per Run 3	0.0102 ppm	97.8693 %	98.8394 %	101.8600 %	99.2600 %	96.4945 %	101.0314 %
Concentration RSD	0.2 %	1.1 %	0.7 %	0.3 %	1.3 %	0.2 %	0.8 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453252-03 WG1973498
 Analysis started at: 9/20/2024 9:44:08 PM
 Comments: <Comment>
 Rack: 1
 Vial: 22

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	2.2879 ppm	0.0036 ppm	0.0872 ppm	0.0208 ppm	0.0000 ppm	125.1104 ppm
Concentration per Run 1	0.0002 ppm	2.2347 ppm	0.0025 ppm	0.0872 ppm	0.0203 ppm	0.0000 ppm	122.3692 ppm
Concentration per Run 2	-0.0002 ppm	2.2959 ppm	0.0040 ppm	0.0869 ppm	0.0210 ppm	0.0000 ppm	126.1050 ppm
Concentration per Run 3	-0.0001 ppm	2.3332 ppm	0.0044 ppm	0.0875 ppm	0.0211 ppm	0.0000 ppm	126.8569 ppm
Concentration RSD	512.3 %	2.2 %	27.6 %	0.3 %	2.1 %	85.9 %	1.9 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0008 ppm	0.0016 ppm	0.0034 ppm	0.0052 ppm	4.0182 ppm	2.1708 ppm	0.0208 ppm
Concentration per Run 1	-0.0009 ppm	0.0015 ppm	0.0036 ppm	0.0052 ppm	3.9363 ppm	2.1121 ppm	0.0199 ppm
Concentration per Run 2	-0.0008 ppm	0.0017 ppm	0.0033 ppm	0.0052 ppm	4.0236 ppm	2.1954 ppm	0.0213 ppm
Concentration per Run 3	-0.0008 ppm	0.0016 ppm	0.0034 ppm	0.0052 ppm	4.0946 ppm	2.2049 ppm	0.0213 ppm
Concentration RSD	5.7 %	5.7 %	3.4 %	0.2 %	2.0 %	2.4 %	3.8 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	16.3958 ppm	0.1859 ppm	0.0006 ppm	13.9396 ppm	0.0034 ppm	0.0020 ppm	0.0024 ppm
Concentration per Run 1	16.3686 ppm	0.1812 ppm	0.0005 ppm	13.6414 ppm	0.0035 ppm	0.0023 ppm	0.0019 ppm
Concentration per Run 2	16.3833 ppm	0.1879 ppm	0.0007 ppm	13.9980 ppm	0.0033 ppm	0.0020 ppm	0.0030 ppm
Concentration per Run 3	16.4356 ppm	0.1887 ppm	0.0005 ppm	14.1793 ppm	0.0035 ppm	0.0018 ppm	0.0023 ppm
Concentration RSD	0.2 %	2.2 %	13.4 %	2.0 %	3.9 %	11.3 %	22.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0013 ppm	11.0453 ppm	0.0000 ppm	0.7471 ppm	0.0233 ppm	0.0000 ppm	0.0040 ppm
Concentration per Run 1	-0.0016 ppm	11.0343 ppm	0.0001 ppm	0.7307 ppm	0.0233 ppm	-0.0002 ppm	0.0040 ppm
Concentration per Run 2	-0.0010 ppm	11.0444 ppm	-0.0001 ppm	0.7509 ppm	0.0233 ppm	-0.0002 ppm	0.0039 ppm
Concentration per Run 3	-0.0013 ppm	11.0573 ppm	-0.0001 ppm	0.7598 ppm	0.0233 ppm	0.0003 ppm	0.0041 ppm
Concentration RSD	22.8 %	0.1 %	685.9 %	2.0 %	0.1 %	1,647.8 %	2.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0112 ppm	97.8459 %	95.4580 %	98.0789 %	99.8901 %	89.4943 %	97.5460 %
Concentration per Run 1	0.0111 ppm	99.2792 %	95.7621 %	98.1020 %	102.3274 %	89.5611 %	98.0445 %
Concentration per Run 2	0.0111 ppm	96.0397 %	95.3260 %	98.1772 %	98.8413 %	89.5649 %	97.4106 %
Concentration per Run 3	0.0112 ppm	98.2187 %	95.2858 %	97.9575 %	98.5017 %	89.3570 %	97.1828 %
Concentration RSD	0.8 %	1.7 %	0.3 %	0.1 %	2.1 %	0.1 %	0.5 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453389-01 WG1973498
 Analysis started at: 9/20/2024 9:50:24 PM
 Comments: <Comment>
 Rack: 1
 Vial: 23

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0614 ppm	0.0035 ppm	0.1306 ppm	0.2994 ppm	-0.0001 ppm	57.3644 ppm
Concentration per Run 1	0.0001 ppm	0.0611 ppm	0.0042 ppm	0.1309 ppm	0.2939 ppm	-0.0001 ppm	56.5088 ppm
Concentration per Run 2	-0.0002 ppm	0.0630 ppm	0.0032 ppm	0.1303 ppm	0.3035 ppm	-0.0001 ppm	57.8307 ppm
Concentration per Run 3	-0.0001 ppm	0.0601 ppm	0.0032 ppm	0.1306 ppm	0.3008 ppm	-0.0001 ppm	57.7538 ppm
Concentration RSD	210.9 %	2.5 %	17.3 %	0.3 %	1.6 %	5.9 %	1.3 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0004 ppm	0.0003 ppm	-0.0005 ppm	0.0006 ppm	0.4919 ppm	3.4109 ppm	0.1283 ppm
Concentration per Run 1	-0.0004 ppm	0.0002 ppm	-0.0005 ppm	0.0005 ppm	0.4843 ppm	3.3495 ppm	0.1252 ppm
Concentration per Run 2	-0.0004 ppm	0.0001 ppm	-0.0003 ppm	0.0006 ppm	0.4995 ppm	3.4528 ppm	0.1306 ppm
Concentration per Run 3	-0.0004 ppm	0.0004 ppm	-0.0006 ppm	0.0005 ppm	0.4920 ppm	3.4305 ppm	0.1290 ppm
Concentration RSD	8.8 %	56.1 %	32.2 %	14.8 %	1.5 %	1.6 %	2.1 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	23.6826 ppm	0.1749 ppm	0.0010 ppm	78.4899 ppm	-0.0005 ppm	0.0002 ppm	0.0008 ppm
Concentration per Run 1	23.6730 ppm	0.1714 ppm	0.0009 ppm	77.1490 ppm	-0.0004 ppm	0.0000 ppm	0.0018 ppm
Concentration per Run 2	23.7202 ppm	0.1766 ppm	0.0012 ppm	79.5440 ppm	-0.0007 ppm	-0.0001 ppm	-0.0002 ppm
Concentration per Run 3	23.6546 ppm	0.1767 ppm	0.0009 ppm	78.7765 ppm	-0.0004 ppm	0.0007 ppm	0.0007 ppm
Concentration RSD	0.1 %	1.7 %	15.2 %	1.6 %	29.2 %	214.3 %	130.6 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0004 ppm	6.9240 ppm	-0.0001 ppm	1.1820 ppm	0.0017 ppm	-0.0002 ppm	0.0001 ppm
Concentration per Run 1	0.0017 ppm	6.9476 ppm	-0.0002 ppm	1.1604 ppm	0.0016 ppm	-0.0001 ppm	0.0003 ppm
Concentration per Run 2	0.0004 ppm	6.9040 ppm	-0.0001 ppm	1.1959 ppm	0.0018 ppm	-0.0007 ppm	0.0000 ppm
Concentration per Run 3	-0.0032 ppm	6.9203 ppm	-0.0001 ppm	1.1897 ppm	0.0017 ppm	0.0003 ppm	0.0000 ppm
Concentration RSD	656.9 %	0.3 %	50.7 %	1.6 %	7.8 %	291.4 %	180.0 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0030 ppm	95.5550 %	92.4445 %	95.3740 %	98.6559 %	87.7470 %	95.5752 %
Concentration per Run 1	0.0030 ppm	96.3145 %	92.8693 %	95.7670 %	100.1372 %	87.6408 %	95.9827 %
Concentration per Run 2	0.0030 ppm	95.6294 %	91.9789 %	95.4050 %	97.8993 %	87.9704 %	95.1760 %
Concentration per Run 3	0.0030 ppm	94.7211 %	92.4854 %	94.9499 %	97.9313 %	87.6297 %	95.5671 %
Concentration RSD	0.8 %	0.8 %	0.5 %	0.4 %	1.3 %	0.2 %	0.4 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: CCV
 Analysis started at: 9/20/2024 9:56:41 PM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.4902 ppm	0.4855 ppm	0.4725 ppm	0.4680 ppm	0.4693 ppm	0.4984 ppm	0.4954 ppm
Concentration per Run 1	0.4901 ppm	0.4784 ppm	0.4712 ppm	0.4674 ppm	0.4576 ppm	0.4867 ppm	0.4804 ppm
Concentration per Run 2	0.4906 ppm	0.4891 ppm	0.4726 ppm	0.4690 ppm	0.4734 ppm	0.5043 ppm	0.5039 ppm
Concentration per Run 3	0.4900 ppm	0.4890 ppm	0.4735 ppm	0.4676 ppm	0.4769 ppm	0.5041 ppm	0.5018 ppm
Recovery Percentage 1	98.049 %	97.100 %	94.494 %	93.603 %	93.865 %	99.679 %	99.075 %
Concentration RSD	0.1 %	1.3 %	0.2 %	0.2 %	2.2 %	2.0 %	2.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.4907 ppm	0.4844 ppm	0.5040 ppm	0.4602 ppm	0.5039 ppm	5.0505 ppm	0.4541 ppm
Concentration per Run 1	0.4910 ppm	0.4849 ppm	0.5021 ppm	0.4601 ppm	0.4934 ppm	4.9023 ppm	0.4432 ppm
Concentration per Run 2	0.4915 ppm	0.4844 ppm	0.5064 ppm	0.4594 ppm	0.5077 ppm	5.1198 ppm	0.4565 ppm
Concentration per Run 3	0.4895 ppm	0.4840 ppm	0.5036 ppm	0.4612 ppm	0.5106 ppm	5.1293 ppm	0.4626 ppm
Recovery Percentage 1	98.134 %	96.887 %	100.802 %	92.049 %	100.778 %	101.009 %	90.817 %
Concentration RSD	0.2 %	0.1 %	0.4 %	0.2 %	1.8 %	2.5 %	2.2 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.4932 ppm	0.4917 ppm	0.4681 ppm	9.4363 ppm	0.4965 ppm	0.4948 ppm	0.4711 ppm
Concentration per Run 1	0.4950 ppm	0.4813 ppm	0.4684 ppm	9.2143 ppm	0.4978 ppm	0.4951 ppm	0.4716 ppm
Concentration per Run 2	0.4936 ppm	0.4977 ppm	0.4677 ppm	9.5231 ppm	0.4963 ppm	0.4952 ppm	0.4703 ppm
Concentration per Run 3	0.4910 ppm	0.4961 ppm	0.4682 ppm	9.5715 ppm	0.4954 ppm	0.4941 ppm	0.4714 ppm
Recovery Percentage 1	98.640 %	98.340 %	93.620 %	94.363 %	99.299 %	98.961 %	94.216 %
Concentration RSD	0.4 %	1.8 %	0.1 %	2.1 %	0.2 %	0.1 %	0.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.4882 ppm	5.2699 ppm	0.4585 ppm	0.4363 ppm	0.4978 ppm	0.4951 ppm	0.4865 ppm
Concentration per Run 1	0.4886 ppm	5.2695 ppm	0.4585 ppm	0.4363 ppm	0.4950 ppm	0.4957 ppm	0.4850 ppm
Concentration per Run 2	0.4879 ppm	5.2632 ppm	0.4595 ppm	0.4518 ppm	0.5001 ppm	0.4947 ppm	0.4877 ppm
Concentration per Run 3	0.4882 ppm	5.2771 ppm	0.4574 ppm	0.4546 ppm	0.4983 ppm	0.4948 ppm	0.4869 ppm
Recovery Percentage 1	97.643 %	100.379 %	91.698 %	89.517 %	99.555 %	99.013 %	97.307 %
Concentration RSD	0.1 %	0.1 %	0.2 %	2.2 %	0.5 %	0.1 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5133 ppm	95.0080 %	96.7579 %	101.3923 %	96.8259 %	97.8235 %	99.4982 %
Concentration per Run 1	0.5140 ppm	95.4966 %	97.0798 %	101.2759 %	98.7345 %	97.8158 %	100.1314 %
Concentration per Run 2	0.5141 ppm	94.6980 %	96.4130 %	101.5794 %	95.9914 %	97.9165 %	98.9714 %
Concentration per Run 3	0.5117 ppm	94.8294 %	96.7811 %	101.3216 %	95.7519 %	97.7380 %	99.3918 %
Recovery Percentage 1	102.656 %						
Concentration RSD	0.3 %	0.5 %	0.3 %	0.2 %	1.7 %	0.1 %	0.6 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: CCB
 Analysis started at: 9/20/2024 10:02:44 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	-0.0001 ppm	0.0021 ppm	0.0015 ppm	0.0010 ppm	0.0001 ppm	0.0000 ppm	0.0029 ppm
Concentration per Run 1	-0.0002 ppm	0.0043 ppm	0.0013 ppm	0.0009 ppm	0.0001 ppm	-0.0001 ppm	0.0016 ppm
Concentration per Run 2	-0.0001 ppm	-0.0014 ppm	0.0009 ppm	0.0012 ppm	0.0002 ppm	0.0000 ppm	0.0030 ppm
Concentration per Run 3	-0.0001 ppm	0.0035 ppm	0.0022 ppm	0.0008 ppm	0.0001 ppm	0.0000 ppm	0.0040 ppm
Recovery Percentage 1	-2.107 %	2.129 %	29.282 %	3.215 %	1.219 %	-0.844 %	2.876 %
Concentration RSD	40.4 %	145.1 %	43.6 %	25.3 %	35.2 %	61.3 %	40.7 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0000 ppm	-0.0008 ppm	-0.0003 ppm	-0.0014 ppm	0.0046 ppm	0.0007 ppm
Concentration per Run 1	0.0000 ppm	-0.0002 ppm	-0.0009 ppm	-0.0002 ppm	-0.0022 ppm	0.0203 ppm	0.0014 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	-0.0007 ppm	-0.0002 ppm	-0.0010 ppm	0.0039 ppm	0.0002 ppm
Concentration per Run 3	0.0000 ppm	0.0001 ppm	-0.0007 ppm	-0.0004 ppm	-0.0011 ppm	-0.0104 ppm	0.0006 ppm
Recovery Percentage 1	-0.991 %	0.040 %	-7.653 %	-2.759 %	-2.861 %	0.184 %	7.394 %
Concentration RSD	37.0 %	1,891.9 %	11.2 %	33.1 %	46.7 %	334.4 %	81.8 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	-0.0001 ppm	0.0000 ppm	0.0001 ppm	0.0012 ppm	-0.0004 ppm	0.0001 ppm	-0.0001 ppm
Concentration per Run 1	-0.0020 ppm	-0.0003 ppm	0.0001 ppm	0.0025 ppm	-0.0003 ppm	-0.0002 ppm	0.0001 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	0.0002 ppm	0.0012 ppm	-0.0005 ppm	0.0001 ppm	-0.0005 ppm
Concentration per Run 3	0.0018 ppm	0.0000 ppm	0.0000 ppm	-0.0001 ppm	-0.0005 ppm	0.0004 ppm	0.0003 ppm
Recovery Percentage 1	-0.065 %	-0.451 %	0.215 %	0.059 %	-1.710 %	0.821 %	-0.100 %
Concentration RSD	2,984.9 %	431.5 %	93.5 %	108.2 %	18.6 %	325.3 %	872.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0005 ppm	-0.0002 ppm	-0.0001 ppm	0.0000 ppm	-0.0002 ppm	-0.0001 ppm	0.0003 ppm
Concentration per Run 1	0.0013 ppm	-0.0003 ppm	0.0001 ppm	0.0000 ppm	-0.0004 ppm	0.0001 ppm	0.0002 ppm
Concentration per Run 2	-0.0001 ppm	-0.0002 ppm	0.0003 ppm	0.0000 ppm	-0.0001 ppm	-0.0007 ppm	0.0002 ppm
Concentration per Run 3	0.0004 ppm	-0.0002 ppm	-0.0005 ppm	0.0000 ppm	-0.0002 ppm	0.0003 ppm	0.0003 ppm
Recovery Percentage 1	5.102 %	-0.043 %	-0.118 %	-0.133 %	-2.312 %	-0.395 %	2.608 %
Concentration RSD	138.7 %	34.3 %	641.6 %	99.9 %	63.3 %	643.5 %	26.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0002 ppm	94.0573 %	98.4160 %	102.5228 %	95.6656 %	100.7636 %	100.6912 %
Concentration per Run 1	0.0002 ppm	96.8945 %	98.4612 %	102.7929 %	100.9328 %	101.0590 %	100.7279 %
Concentration per Run 2	0.0002 ppm	92.9171 %	98.0588 %	102.4832 %	93.6717 %	100.7203 %	100.2845 %
Concentration per Run 3	0.0003 ppm	92.3604 %	98.7280 %	102.2922 %	92.3924 %	100.5117 %	101.0611 %
Recovery Percentage 1	4.502 %						
Concentration RSD	14.9 %	2.6 %	0.3 %	0.2 %	4.8 %	0.3 %	0.4 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: L2453058-03 WG1973498
 Analysis started at: 9/20/2024 10:11:58 PM
 Comments: <Comment>
 Rack: 1
 Vial: 19

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0001 ppm	0.0393 ppm	0.0016 ppm	0.0216 ppm	0.0153 ppm	0.0000 ppm	19.3255 ppm
Concentration per Run 1	0.0004 ppm	0.0403 ppm	0.0013 ppm	0.0217 ppm	0.0150 ppm	0.0000 ppm	18.9733 ppm
Concentration per Run 2	-0.0003 ppm	0.0409 ppm	0.0017 ppm	0.0216 ppm	0.0155 ppm	0.0000 ppm	19.4582 ppm
Concentration per Run 3	0.0001 ppm	0.0368 ppm	0.0018 ppm	0.0215 ppm	0.0155 ppm	-0.0001 ppm	19.5449 ppm
Concentration RSD	459.3 %	5.6 %	16.3 %	0.5 %	1.8 %	47.6 %	1.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	-0.0001 ppm	0.0001 ppm	-0.0001 ppm	0.0003 ppm	0.0725 ppm	1.5602 ppm	0.0000 ppm
Concentration per Run 1	-0.0001 ppm	0.0002 ppm	-0.0001 ppm	0.0004 ppm	0.0697 ppm	1.5318 ppm	0.0001 ppm
Concentration per Run 2	-0.0001 ppm	0.0001 ppm	-0.0002 ppm	0.0003 ppm	0.0726 ppm	1.5533 ppm	0.0002 ppm
Concentration per Run 3	-0.0001 ppm	0.0001 ppm	0.0000 ppm	0.0002 ppm	0.0751 ppm	1.5956 ppm	-0.0002 ppm
Concentration RSD	11.0 %	50.7 %	96.7 %	21.1 %	3.8 %	2.1 %	791.4 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	6.2869 ppm	0.0035 ppm	0.0000 ppm	13.0827 ppm	-0.0003 ppm	0.0001 ppm	0.0003 ppm
Concentration per Run 1	6.2755 ppm	0.0036 ppm	0.0001 ppm	12.8145 ppm	-0.0003 ppm	-0.0003 ppm	0.0003 ppm
Concentration per Run 2	6.2945 ppm	0.0035 ppm	0.0000 ppm	13.2040 ppm	-0.0004 ppm	0.0002 ppm	0.0010 ppm
Concentration per Run 3	6.2908 ppm	0.0034 ppm	0.0000 ppm	13.2295 ppm	-0.0002 ppm	0.0003 ppm	-0.0005 ppm
Concentration RSD	0.2 %	3.3 %	109.3 %	1.8 %	28.4 %	572.9 %	275.2 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0003 ppm	2.8387 ppm	-0.0002 ppm	0.0759 ppm	0.0017 ppm	-0.0001 ppm	0.0005 ppm
Concentration per Run 1	-0.0006 ppm	2.8302 ppm	-0.0004 ppm	0.0745 ppm	0.0017 ppm	0.0008 ppm	0.0005 ppm
Concentration per Run 2	0.0010 ppm	2.8451 ppm	-0.0002 ppm	0.0764 ppm	0.0018 ppm	-0.0009 ppm	0.0006 ppm
Concentration per Run 3	-0.0014 ppm	2.8409 ppm	-0.0002 ppm	0.0766 ppm	0.0016 ppm	-0.0003 ppm	0.0004 ppm
Concentration RSD	366.8 %	0.3 %	45.9 %	1.5 %	4.7 %	597.9 %	26.8 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0011 ppm	95.3007 %	98.3702 %	102.1445 %	97.9089 %	98.8483 %	101.0560 %
Concentration per Run 1	0.0012 ppm	95.9428 %	98.4701 %	102.4617 %	100.5695 %	99.2628 %	101.1439 %
Concentration per Run 2	0.0011 ppm	95.2891 %	98.5033 %	102.1196 %	97.0418 %	98.7687 %	101.3005 %
Concentration per Run 3	0.0011 ppm	94.6702 %	98.1372 %	101.8523 %	96.1154 %	98.5135 %	100.7235 %
Concentration RSD	5.0 %	0.7 %	0.2 %	0.3 %	2.4 %	0.4 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: CCV
 Analysis started at: 9/20/2024 10:32:21 PM
 Comments: <Comment>
 Rack: 0
 Vial: 3

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.4934 ppm	0.4933 ppm	0.4693 ppm	0.4653 ppm	0.4768 ppm	0.5079 ppm	0.5143 ppm
Concentration per Run 1	0.4933 ppm	0.4739 ppm	0.4712 ppm	0.4664 ppm	0.4618 ppm	0.4920 ppm	0.4958 ppm
Concentration per Run 2	0.4924 ppm	0.5112 ppm	0.4678 ppm	0.4643 ppm	0.4904 ppm	0.5216 ppm	0.5320 ppm
Concentration per Run 3	0.4943 ppm	0.4948 ppm	0.4690 ppm	0.4652 ppm	0.4781 ppm	0.5101 ppm	0.5152 ppm
Recovery Percentage 1	98.671 %	98.661 %	93.864 %	93.059 %	95.351 %	101.579 %	102.860 %
Concentration RSD	0.2 %	3.8 %	0.4 %	0.2 %	3.0 %	2.9 %	3.5 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.4936 ppm	0.4841 ppm	0.5039 ppm	0.4582 ppm	0.5165 ppm	5.1336 ppm	0.4597 ppm
Concentration per Run 1	0.4936 ppm	0.4853 ppm	0.5034 ppm	0.4589 ppm	0.4992 ppm	4.9539 ppm	0.4454 ppm
Concentration per Run 2	0.4928 ppm	0.4831 ppm	0.5036 ppm	0.4579 ppm	0.5330 ppm	5.3074 ppm	0.4730 ppm
Concentration per Run 3	0.4945 ppm	0.4838 ppm	0.5048 ppm	0.4579 ppm	0.5173 ppm	5.1394 ppm	0.4608 ppm
Recovery Percentage 1	98.727 %	96.815 %	100.783 %	91.645 %	103.297 %	102.671 %	91.950 %
Concentration RSD	0.2 %	0.2 %	0.2 %	0.1 %	3.3 %	3.4 %	3.0 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.4974 ppm	0.5034 ppm	0.4655 ppm	9.5720 ppm	0.4929 ppm	0.4939 ppm	0.4655 ppm
Concentration per Run 1	0.4949 ppm	0.4888 ppm	0.4670 ppm	9.2555 ppm	0.4942 ppm	0.4937 ppm	0.4675 ppm
Concentration per Run 2	0.5004 ppm	0.5155 ppm	0.4638 ppm	9.8478 ppm	0.4911 ppm	0.4939 ppm	0.4646 ppm
Concentration per Run 3	0.4969 ppm	0.5057 ppm	0.4658 ppm	9.6127 ppm	0.4936 ppm	0.4942 ppm	0.4645 ppm
Recovery Percentage 1	99.484 %	100.671 %	93.102 %	95.720 %	98.588 %	98.785 %	93.109 %
Concentration RSD	0.6 %	2.7 %	0.3 %	3.1 %	0.3 %	0.1 %	0.4 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.4813 ppm	5.2123 ppm	0.4590 ppm	0.4546 ppm	0.4946 ppm	0.4913 ppm	0.4846 ppm
Concentration per Run 1	0.4825 ppm	5.2269 ppm	0.4580 ppm	0.4402 ppm	0.4948 ppm	0.4930 ppm	0.4832 ppm
Concentration per Run 2	0.4810 ppm	5.2050 ppm	0.4595 ppm	0.4676 ppm	0.4954 ppm	0.4899 ppm	0.4856 ppm
Concentration per Run 3	0.4804 ppm	5.2051 ppm	0.4595 ppm	0.4559 ppm	0.4936 ppm	0.4910 ppm	0.4850 ppm
Recovery Percentage 1	96.262 %	99.282 %	91.804 %	90.911 %	98.915 %	98.257 %	96.922 %
Concentration RSD	0.2 %	0.2 %	0.2 %	3.0 %	0.2 %	0.3 %	0.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.5180 ppm	93.4914 %	97.3763 %	103.2450 %	94.9741 %	99.8132 %	100.7580 %
Concentration per Run 1	0.5176 ppm	95.0459 %	97.7400 %	103.1918 %	98.3311 %	99.7510 %	101.1140 %
Concentration per Run 2	0.5168 ppm	91.7022 %	97.2827 %	103.3820 %	92.4374 %	100.0484 %	100.5857 %
Concentration per Run 3	0.5197 ppm	93.7261 %	97.1061 %	103.1614 %	94.1539 %	99.6402 %	100.5742 %
Recovery Percentage 1	103.602 %						
Concentration RSD	0.3 %	1.8 %	0.3 %	0.1 %	3.2 %	0.2 %	0.3 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: CCB
 Analysis started at: 9/20/2024 10:38:24 PM
 Comments: <Comment>
 Rack: 0
 Vial: 4

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0000 ppm	0.0026 ppm	0.0016 ppm	0.0008 ppm	0.0001 ppm	0.0000 ppm	0.0009 ppm
Concentration per Run 1	0.0001 ppm	0.0006 ppm	0.0023 ppm	0.0005 ppm	0.0001 ppm	0.0000 ppm	-0.0011 ppm
Concentration per Run 2	-0.0001 ppm	0.0017 ppm	0.0017 ppm	0.0009 ppm	0.0001 ppm	0.0000 ppm	0.0027 ppm
Concentration per Run 3	0.0001 ppm	0.0056 ppm	0.0009 ppm	0.0009 ppm	0.0001 ppm	0.0000 ppm	0.0009 ppm
Recovery Percentage 1	0.285 %	2.640 %	32.542 %	2.503 %	0.799 %	-0.157 %	0.857 %
Concentration RSD	563.1 %	98.5 %	42.8 %	29.2 %	5.7 %	267.3 %	219.6 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0000 ppm	0.0001 ppm	-0.0009 ppm	-0.0002 ppm	-0.0025 ppm	0.0011 ppm	0.0005 ppm
Concentration per Run 1	0.0000 ppm	0.0001 ppm	-0.0007 ppm	-0.0002 ppm	-0.0038 ppm	-0.0006 ppm	-0.0003 ppm
Concentration per Run 2	0.0000 ppm	0.0001 ppm	-0.0011 ppm	-0.0003 ppm	-0.0016 ppm	0.0034 ppm	0.0006 ppm
Concentration per Run 3	0.0000 ppm	0.0000 ppm	-0.0008 ppm	-0.0002 ppm	-0.0020 ppm	0.0004 ppm	0.0012 ppm
Recovery Percentage 1	-0.297 %	0.293 %	-8.981 %	-2.224 %	-4.955 %	0.042 %	5.209 %
Concentration RSD	137.2 %	80.3 %	25.4 %	26.9 %	47.7 %	199.8 %	142.8 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.0016 ppm	-0.0001 ppm	0.0000 ppm	-0.0027 ppm	-0.0004 ppm	0.0002 ppm	-0.0006 ppm
Concentration per Run 1	0.0032 ppm	-0.0001 ppm	0.0001 ppm	0.0014 ppm	-0.0003 ppm	0.0003 ppm	-0.0015 ppm
Concentration per Run 2	-0.0005 ppm	0.0000 ppm	-0.0001 ppm	-0.0049 ppm	-0.0007 ppm	0.0004 ppm	-0.0003 ppm
Concentration per Run 3	0.0020 ppm	0.0000 ppm	0.0000 ppm	-0.0047 ppm	-0.0002 ppm	0.0001 ppm	-0.0001 ppm
Recovery Percentage 1	1.572 %	-0.568 %	0.062 %	-0.136 %	-1.574 %	2.374 %	-1.293 %
Concentration RSD	120.7 %	69.6 %	263.6 %	130.4 %	62.8 %	62.7 %	113.1 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	-0.0009 ppm	-0.0004 ppm	0.0001 ppm	0.0000 ppm	-0.0001 ppm	0.0003 ppm	0.0003 ppm
Concentration per Run 1	-0.0030 ppm	-0.0001 ppm	-0.0001 ppm	0.0000 ppm	-0.0001 ppm	0.0000 ppm	0.0004 ppm
Concentration per Run 2	0.0006 ppm	-0.0005 ppm	0.0005 ppm	0.0000 ppm	-0.0001 ppm	0.0009 ppm	0.0001 ppm
Concentration per Run 3	-0.0002 ppm	-0.0006 ppm	-0.0001 ppm	0.0000 ppm	-0.0003 ppm	0.0000 ppm	0.0003 ppm
Recovery Percentage 1	-8.595 %	-0.079 %	0.253 %	-0.368 %	-1.436 %	1.462 %	2.652 %
Concentration RSD	220.9 %	65.3 %	258.5 %	12.5 %	77.9 %	171.2 %	45.4 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0002 ppm	92.9981 %	96.3507 %	102.4984 %	95.3198 %	100.8256 %	98.5371 %
Concentration per Run 1	0.0003 ppm	94.4033 %	96.1788 %	101.0220 %	98.1007 %	99.5740 %	98.2713 %
Concentration per Run 2	0.0003 ppm	92.0660 %	96.3250 %	103.1250 %	93.9089 %	101.3639 %	98.6382 %
Concentration per Run 3	0.0002 ppm	92.5251 %	96.5483 %	103.3481 %	93.9497 %	101.5389 %	98.7018 %
Recovery Percentage 1	4.951 %						
Concentration RSD	21.6 %	1.3 %	0.2 %	1.3 %	2.5 %	1.1 %	0.2 %

ICP DataTrace 4

9/23/2024 11:29:57 AM



LabBook: WG1974423_09202024T4.imexp

Sample: LLOQ
 Analysis started at: 9/20/2024 10:44:49 PM
 Comments: <Comment>
 Rack: 0
 Vial: 5

	Ag 328.068 {103} (Axial)	Al 396.152 {85} (Radial)	As 189.042 {478} (Axial)	B 208.959 {461} (Axial)	Ba 455.403 {74} (Radial)	Be 313.042 {108} (Radial)	Ca 315.887 {107} (Radial)
Concentration average	0.0049 ppm	0.1026 ppm	0.0057 ppm	0.0301 ppm	0.0097 ppm	0.0050 ppm	0.1055 ppm
Concentration per Run 1	0.0050 ppm	0.1003 ppm	0.0064 ppm	0.0303 ppm	0.0095 ppm	0.0049 ppm	0.1041 ppm
Concentration per Run 2	0.0047 ppm	0.1017 ppm	0.0060 ppm	0.0301 ppm	0.0098 ppm	0.0051 ppm	0.1064 ppm
Concentration per Run 3	0.0050 ppm	0.1058 ppm	0.0047 ppm	0.0300 ppm	0.0099 ppm	0.0051 ppm	0.1060 ppm
Recovery Percentage 1	97.646 %	102.593 %	113.776 %	100.476 %	97.375 %	100.251 %	105.520 %
Concentration RSD	2.7 %	2.8 %	14.8 %	0.6 %	2.4 %	2.1 %	1.2 %

	Cd 214.438 {457} (Axial)	Co 228.616 {447} (Axial)	Cr 267.716 {126} (Axial)	Cu 324.754 {104} (Axial)	Fe 259.940 {130} (Radial)	K 766.490 {44} (Radial)	Li 670.784 {50} (Radial)
Concentration average	0.0041 ppm	0.0199 ppm	0.0096 ppm	0.0096 ppm	0.0587 ppm	2.5803 ppm	0.0095 ppm
Concentration per Run 1	0.0041 ppm	0.0198 ppm	0.0093 ppm	0.0096 ppm	0.0584 ppm	2.5056 ppm	0.0096 ppm
Concentration per Run 2	0.0041 ppm	0.0200 ppm	0.0100 ppm	0.0096 ppm	0.0582 ppm	2.6177 ppm	0.0093 ppm
Concentration per Run 3	0.0041 ppm	0.0198 ppm	0.0095 ppm	0.0096 ppm	0.0594 ppm	2.6177 ppm	0.0096 ppm
Recovery Percentage 1	102.795 %	99.307 %	96.107 %	95.997 %	117.310 %	103.213 %	95.362 %
Concentration RSD	0.6 %	0.4 %	4.0 %	0.2 %	1.1 %	2.5 %	1.9 %

	Mg 279.079 {121} (Axial)	Mn 257.610 {131} (Radial)	Mo 202.030 {467} (Axial)	Na 589.592 {57} (Radial)	Ni 231.604 {445} (Axial)	Pb 220.353 {453} (Axial)	Sb 206.833 {463} (Axial)
Concentration average	0.1056 ppm	0.0107 ppm	0.0488 ppm	1.9447 ppm	0.0198 ppm	0.0101 ppm	0.0483 ppm
Concentration per Run 1	0.1061 ppm	0.0105 ppm	0.0486 ppm	1.8976 ppm	0.0200 ppm	0.0103 ppm	0.0476 ppm
Concentration per Run 2	0.1060 ppm	0.0107 ppm	0.0489 ppm	1.9566 ppm	0.0197 ppm	0.0095 ppm	0.0490 ppm
Concentration per Run 3	0.1047 ppm	0.0108 ppm	0.0488 ppm	1.9800 ppm	0.0196 ppm	0.0104 ppm	0.0483 ppm
Recovery Percentage 1	105.616 %	106.609 %	97.570 %	97.237 %	98.916 %	101.070 %	96.563 %
Concentration RSD	0.7 %	1.4 %	0.3 %	2.2 %	1.1 %	4.8 %	1.5 %

	Se 196.090 {472} (Axial)	Si 212.412 {459} (Axial)	Sn 189.989 {477} (Axial)	Sr 421.552 {80} (Radial)	Ti 334.904 {101} (Axial)	Tl 190.856 {477} (Axial)	V 292.402 {115} (Axial)
Concentration average	0.0079 ppm	0.5268 ppm	0.0493 ppm	0.0094 ppm	0.0519 ppm	0.0198 ppm	0.0105 ppm
Concentration per Run 1	0.0079 ppm	0.5242 ppm	0.0497 ppm	0.0093 ppm	0.0518 ppm	0.0196 ppm	0.0106 ppm
Concentration per Run 2	0.0076 ppm	0.5279 ppm	0.0494 ppm	0.0095 ppm	0.0516 ppm	0.0198 ppm	0.0103 ppm
Concentration per Run 3	0.0081 ppm	0.5284 ppm	0.0489 ppm	0.0095 ppm	0.0523 ppm	0.0201 ppm	0.0105 ppm
Recovery Percentage 1	78.626 %	105.367 %	98.665 %	94.223 %	103.818 %	99.231 %	104.718 %
Concentration RSD	3.5 %	0.4 %	0.8 %	1.4 %	0.6 %	1.2 %	1.3 %

	Zn 206.200 {463} (Axial)	Y 371.030 {91} (Radial)	Y 360.073 {94} (Axial)	Y 224.306 {450} (Axial)	Sc 361.384 {93} (Radial)	Sc 227.318 {448} (Axial)	Sc 361.384 {93} (Axial)
Concentration average	0.0065 ppm	93.6091 %	97.2683 %	101.8233 %	96.1203 %	98.5375 %	100.2683 %
Concentration per Run 1	0.0064 ppm	94.7954 %	97.6740 %	102.0001 %	98.7068 %	98.7897 %	100.6198 %
Concentration per Run 2	0.0065 ppm	92.7643 %	97.2781 %	101.7499 %	95.3122 %	98.3671 %	100.5162 %
Concentration per Run 3	0.0064 ppm	93.2677 %	96.8530 %	101.7198 %	94.3419 %	98.4556 %	99.6689 %
Recovery Percentage 1	129.178 %						
Concentration RSD	0.7 %	1.1 %	0.4 %	0.2 %	2.4 %	0.2 %	0.5 %

QC True Values: Trace 4,5,6,7

	Element	True Value (mg/L)		Element	True Value (mg/L)
ICV/CCV	Al	0.50	CRI	Al	0.40
	K	5.00		Sb	0.10
	Na	10.00		As	0.02
	Si	5.25		Ba	0.04
ICSA				Be	0.01
	Al	250		Bi	0.02
	Ca	250		B	0.10
	Fe	100		Cd	0.01
ICSB	Mg	250		Ca	0.40
				Cr	0.02
	Al	9.00		Co	0.10
	Sb	1.00		Cu	0.05
	As	1.00		Fe	0.20
	Ba	0.30		Pb	0.05
	Be	0.10		Mg	0.40
	Bi	1.00		Mn	0.03
	B	0.50		Mo	0.10
	Cd	0.30		Ni	0.08
	Ca	45.00		K	5.00
	Cr	0.30		Se	0.02
	Co	0.30		Si	1.00
	Cu	0.30		Ag	0.02
	Fe	37.50		Na	5.00
	Pb	1.00		Sr	0.02
	Mg	22.50		Tl	0.02
	Mn	0.20		Sn	0.02
	Mo	0.30		Ti	0.02
	Ni	0.30		V	0.10
	K	20.00		Zn	0.04
	Se	0.50			
	Si	1.23			
	Ag	0.30			
	Na	7.50			
	Sr	1.00			
	Tl	1.00			
	Sn	1.00			
	Ti	1.00			
	V	0.30			
	Zn	0.30			

LCS & MS Spike Concentrations

Element	Liquid concentrations (mg/L)	Soil concentrations (mg/kg)
Al	2.00	100
Sb	0.50	25.0
As	0.12	6.0
Ba	2.00	100
Be	0.05	2.5
Bi	1.00	50.0
B	1.00	50.0
Cd	0.05	2.55
Ca	10.00	500
Cr	0.20	10.0
Co	0.50	25.0
Cu	0.25	12.5
Fe	1.00	50.0
Pb	0.51	25.5
Mg	10.00	500
Mn	0.50	25.0
Mo	1.00	50.0
Ni	0.50	25.0
K	10.00	500
Se	0.12	6.0
Si	1.00	50.0
Ag	0.05	2.5
Na	10.00	500
Sr	1.00	50.0
Tl	0.12	6.0
Sn	1.00	50.0
Ti	1.00	50.0
V	0.50	25.0
Zn	0.50	25.0

LCS and MS Spike Concentrations—As of 08/09/2011

Element	Liquid Concentration(mg/L)	Soil Concentration (mg/kg)
Al	2.00	160
Sb	0.50	40
As	0.12	9.6
Ba	2.00	160
Be	0.05	4.0
Bi	1.00	80
B	1.00	80
Cd	0.051	4.08
Ca	10.0	800
Cr	0.20	16
Co	0.50	40
Cu	0.25	20
Fe	1.00	80
Pb	0.51	40.8
Mg	10.0	800
Mn	0.50	40
Mo	1.00	80
Ni	0.50	40
K	10.0	800
Se	0.12	9.6
Si	1.00	80
Ag	0.05	24
Na	10.0	800
Sr	1.00	80
Tl	0.12	9.6
Sn	1.00	80
Ti	1.00	80
V	0.50	40
Zn	0.50	40

Revised 8/9/11 Soil spike is based on (2x water spike)x(50/1.25), where 50 is the final volume of soil digestate and 1.25 is the nominal digestion weight of 1.25g, except in the case of Ag, where additional Ag is added to the spike.

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D102-540
Certificate Issue Date: June 22, 2018
Expiration Date: January 31, 2022
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 030512.

CERTIFICATION

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8160	6.36	3960 - 12400	4080 - 12200
Antimony	120	60.9	9.42	0.822 - 121	12.0 - 166
Arsenic	144	135	5.08	112 - 158	94.6 - 176
Barium	469	443	6.77	366 - 521	332 - 554
Beryllium	207	197	5.86	164 - 229	148 - 246
Boron	213	174	12.6	127 - 221	105 - 244
Cadmium	224	204	6.65	169 - 240	153 - 256
Calcium	5190	4830	9.12	3950 - 5700	3510 - 6150
Chromium	138	132	8.56	109 - 155	92.2 - 171
Cobalt	182	179	7.93	151 - 207	134 - 224
Copper	191	184	6.72	155 - 213	138 - 230
Iron	15000	14400	10.7	8770 - 20000	5120 - 23600
Lead	225	216	7.72	178 - 254	159 - 274
Magnesium	2570	2340	6.13	1780 - 2900	1460 - 3230
Manganese	331	323	6.71	266 - 380	242 - 404
Mercury	16.8	13.2	16.0	8.64 - 17.7	7.89 - 18.5
Molybdenum	193	175	2.39	141 - 209	125 - 226
Nickel	163	152	5.95	126 - 178	106 - 197
Potassium	2420	2050	6.31	1440 - 2660	1210 - 2890
Selenium	81.9	74.9	4.13	59.3 - 90.5	47.0 - 103
Silver	57.6	53.9	9.00	43.0 - 64.8	37.8 - 70.0
Sodium	161	149	12.1	111 - 188	57.7 - 241
Strontium	100	96.2	4.04	78.1 - 114	69.0 - 123
Thallium	253	232	3.54	188 - 276	168 - 296

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Tin	146	134	10.8	106 - 163	79.5 - 189
Titanium	449	340	7.20	70.2 - 609	44.9 - 711
Uranium	114	113	7.10	85.5 - 140	71.9 - 153
Vanadium	180	172	8.85	137 - 207	126 - 218
Zinc	217	211	6.58	171 - 250	147 - 274

ANALYTICAL VERIFICATION

Parameter	Certified Value ¹	Proficiency Testing Study			NIST Traceability	
		Mean	Recovery ⁵	n	SRM Number	Recovery
	mg/kg	mg/kg	%			%
Aluminum	10100	8160	80.8	138	-	-
Antimony	120	60.9	50.8	135	-	-
Arsenic	144	135	93.8	184	-	-
Barium	469	443	94.5	158	-	-
Beryllium	207	197	95.0	148	-	-
Boron	213	174	81.8	107	-	-
Cadmium	224	204	91.3	199	-	-
Calcium	5190	4830	93.0	122	-	-
Chromium	138	132	95.5	172	-	-
Cobalt	182	179	98.4	140	-	-
Copper	191	184	96.3	183	-	-
Iron	15000	14400	95.6	133	-	-
Lead	225	216	96.2	204	-	-
Magnesium	2570	2340	91.2	122	-	-
Manganese	331	323	97.6	147	-	-
Mercury	16.8	13.2	78.3	128	-	-
Molybdenum	193	175	90.8	143	-	-
Nickel	163	152	93.1	185	-	-
Potassium	2420	2050	84.7	121	-	-
Selenium	81.9	74.9	91.5	163	-	-

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Proficiency Testing Study		n	NIST Traceability	
		Mean	Recovery ⁵		SRM Number	Recovery
	mg/kg	mg/kg	%			%
Silver	57.6	53.9	93.6	150	-	-
Sodium	161	149	92.8	105	-	-
Strontium	100	96.2	96.2	90	-	-
Thallium	253	232	91.6	147	-	-
Tin	146	134	92.0	100	-	-
Titanium	449	340	75.6	93	-	-
Uranium	114	113	98.8	35	-	-
Vanadium	180	172	95.4	139	-	-
Zinc	217	211	97.0	180	-	-

1. The **Certified Values** are the actual "made-to" concentrations confirmed by ERA analytical verification. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor. The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product.

3. The **QC Performance Acceptance Limits (QC PALs™)** are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.

4. The **PT Performance Acceptance Limits (PT PALs™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAC proficiency testing requirements. Use the PT PALs™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

5. The **PT Data/Traceability** data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values. In addition, where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. This product is traceable to the lot numbers of its starting materials. All gravimetric and volumetric measurements related to its manufacture are traceable to NIST through an unbroken chain of comparisons.

Traceability Recovery (%) = [(% recovery certified standard)/(% recovery NIST SRM)]*100

The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

6. For additional information on this product such as intended use, instructions for use, level of homogeneity, and safety information, please refer to the provided Instruction Sheet

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer

Brian Miller

Quality Officer

Matthew Seebeck




ISO/IEC GUIDE 34:2009

ISO/IEC 17025:2005



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A Waters Company

Reference Material

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D105-540
Certificate Issue Date: March 19, 2019
Expiration Date: October 12, 2022
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 030512.

CERTIFICATION

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8800	8.32	4600 - 13000	4470 - 13100
Antimony	282	147	7.70	6.17 - 289	28.2 - 366
Arsenic	155	143	6.34	119 - 168	100 - 186
Barium	439	415	5.37	343 - 488	311 - 519
Beryllium	192	179	2.78	149 - 210	134 - 224
Boron	216	160	7.08	113 - 208	96.1 - 238
Cadmium	61.5	56.2	0.528	46.6 - 65.9	42.2 - 70.3
Calcium	5190	4960	6.64	4090 - 5840	3610 - 6310
Chromium	104	101	4.75	83.2 - 118	70.5 - 131
Cobalt	196	189	0.500	158 - 219	141 - 236
Copper	65.0	63.1	2.65	53.1 - 73.1	47.3 - 78.9
Iron	15000	15700	8.94	10100 - 21300	6000 - 25400
Lead	126	125	4.77	103 - 146	89.3 - 160
Magnesium	2570	2410	6.26	1860 - 2970	1520 - 3310
Manganese	387	382	5.37	315 - 449	290 - 474
Mercury	7.76	7.61	13.7	5.53 - 9.69	4.57 - 10.7
Molybdenum	120	107	0.500	86.0 - 128	75.5 - 139
Nickel	117	108	0.514	89.5 - 127	75.7 - 141
Potassium	2420	2110	5.62	1500 - 2720	1260 - 2960
Selenium	84.6	77.9	7.10	61.8 - 94.0	49.2 - 107
Silver	34.6	34.3	8.34	27.8 - 40.9	23.6 - 45.1
Sodium	161	145	6.72	106 - 183	54.3 - 235
Strontium	104	104	3.95	85.1 - 123	74.8 - 133
Thallium	123	113	0.500	91.3 - 134	77.1 - 149

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▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Tin	118	107	0.500	83.5 - 130	61.2 - 152
Titanium	512	421	5.80	114 - 728	0.00 - 854
Uranium	103	104	6.18	79.1 - 128	71.9 - 135
Vanadium	87.3	83.7	8.55	66.8 - 101	54.2 - 113
Zinc	251	240	3.98	194 - 285	168 - 312

ANALYTICAL VERIFICATION

Parameter	Certified Value ¹	Proficiency Testing Study			NIST Traceability	
		Mean	Recovery ⁵	n	SRM Number	Recovery
	mg/kg	mg/kg	%			%
Aluminum	10100	8800	87.1	193	-	-
Antimony	282	147	52.3	216	-	-
Arsenic	155	143	92.5	240	-	-
Barium	439	415	94.6	222	-	-
Beryllium	192	179	93.4	220	-	-
Boron	216	160	74.2	152	-	-
Cadmium	61.5	56.2	91.5	239	-	-
Calcium	5190	4960	95.6	175	-	-
Chromium	104	101	96.8	237	-	-
Cobalt	196	189	96.2	215	-	-
Copper	65.0	63.1	97.1	237	-	-
Iron	15000	15700	105	195	-	-
Lead	126	125	99.0	243	-	-
Magnesium	2570	2410	93.9	177	-	-
Manganese	387	382	98.7	215	-	-
Mercury	7.76	7.61	98.0	157	-	-
Molybdenum	120	107	89.4	216	-	-
Nickel	117	108	92.5	235	-	-
Potassium	2420	2110	87.2	181	-	-
Selenium	84.6	77.9	92.1	231	-	-

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Proficiency Testing Study		n	NIST Traceability	
		Mean	Recovery ⁵		SRM Number	Recovery
	mg/kg	mg/kg	%			%
Silver	34.6	34.3	99.3	216	-	-
Sodium	161	145	89.8	166	-	-
Strontium	104	104	99.9	148	-	-
Thallium	123	113	91.8	215	-	-
Tin	118	107	90.4	164	-	-
Titanium	512	421	82.2	157	-	-
Uranium	103	104	101	61	-	-
Vanadium	87.3	83.7	95.9	214	-	-
Zinc	251	240	95.5	234	-	-

1. The **Certified Values** are the actual "made-to" concentrations confirmed by ERA analytical verification. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this reference material during the period of validity of this certificate.

2. The **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor. The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product.

3. The **QC Performance Acceptance Limits (QC PALs™)** are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.

4. The **PT Performance Acceptance Limits (PT PALs™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAC proficiency testing requirements. Use the PT PALs™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

5. The **PT Data/Traceability** data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values. In addition, where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. This product is traceable to the lot numbers of its starting materials. All gravimetric and volumetric measurements related to its manufacture are traceable to NIST through an unbroken chain of comparisons.

Traceability Recovery (%) = [(% recovery certified standard)/(% recovery NIST SRM)]*100

The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

6. For additional information on this product such as intended use, instructions for use, level of homogeneity, and safety information, please refer to the provided Instruction Sheet

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer

Brian Miller

Quality Officer

Matthew Seebeck



ISO/IEC 17025:2005
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Page 3 of 3 Lot: D105-540

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D109-540
Certificate Issue Date: March 24, 2020
Expiration Date: October 03, 2023
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 090119.

CERTIFICATION

Parameter	Certified Value ¹	Reference Value ⁷	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8130	2.54	3920 - 12300	4060 - 12200
Antimony	259	134	5.03	4.56 - 264	25.9 - 335
Arsenic	171	156	3.38	129 - 183	109 - 203
Barium	253	239	4.81	197 - 280	179 - 298
Beryllium	179	169	6.59	141 - 198	127 - 212
Boron	114	87.5	10.3	62.5 - 113	52.5 - 125
Cadmium	149	137	5.43	113 - 160	103 - 171
Calcium	5190	4760	3.48	3890 - 5640	3460 - 6070
Chromium	163	154	3.79	126 - 181	108 - 200
Cobalt	127	121	5.07	101 - 141	90.8 - 151
Copper	57.0	54.9	4.13	46.1 - 63.6	41.1 - 68.6
Iron	15000	14100	6.27	8470 - 19700	4920 - 23200
Lead	133	130	3.00	107 - 152	93.3 - 167
Magnesium	2570	2320	3.32	1760 - 2880	1440 - 3200
Manganese	277	269	2.67	221 - 317	199 - 340
Mercury	21.6	20.5	7.72	14.7 - 26.3	12.3 - 28.6
Molybdenum	108	95.4	2.61	76.4 - 114	66.9 - 124
Nickel	58.7	53.9	4.97	44.5 - 63.3	37.7 - 70.0
Potassium	2420	2020	3.06	1410 - 2630	1190 - 2850
Selenium	181	167	5.63	132 - 201	113 - 221
Silver	35.5	33.6	5.20	26.8 - 40.3	23.0 - 44.1
Sodium	161	133	2.76	95.1 - 171	46.5 - 220
Strontium	89.7	87.9	4.59	71.7 - 104	62.8 - 113
Thallium	121	112	5.19	90.3 - 133	76.1 - 147

Certified Reference Material

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value ⁷	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Tin	83.5	74.0	5.42	57.6 - 90.4	39.7 - 108
Titanium	474	333	7.17	48.6 - 617	46.3 - 620
Uranium	51.9	51.9	3.36	39.6 - 64.3	35.9 - 68.0
Vanadium	68.1	62.6	6.00	49.4 - 75.8	37.0 - 88.3
Zinc	165	158	2.34	128 - 188	111 - 205

▪ Certificate of Analysis ▪

ANALYTICAL VERIFICATION

Parameter	Certified Value ¹	Proficiency Testing Study		n	NIST Traceability	
		Mean	Recovery ⁵		SRM Number ⁶	Recovery
	mg/kg	mg/kg	%			%
Aluminum	10100	8130	80.5	196	-	-
Antimony	259	134	51.8	217	-	-
Arsenic	171	156	91.3	243	-	-
Barium	253	239	94.3	230	-	-
Beryllium	179	169	94.6	223	-	-
Boron	114	87.5	76.7	150	-	-
Cadmium	149	137	91.8	249	-	-
Calcium	5190	4760	91.8	184	-	-
Chromium	163	154	94.4	245	-	-
Cobalt	127	121	95.3	221	-	-
Copper	57.0	54.9	96.2	243	-	-
Iron	15000	14100	93.9	199	-	-
Lead	133	130	97.7	251	-	-
Magnesium	2570	2320	90.1	182	-	-
Manganese	277	269	97.2	220	-	-
Mercury	21.6	20.5	94.7	172	-	-
Molybdenum	108	95.4	88.3	218	-	-
Nickel	58.7	53.9	91.8	242	-	-
Potassium	2420	2020	83.5	187	-	-
Selenium	181	167	92.2	235	-	-
Silver	35.5	33.6	94.5	222	-	-
Sodium	161	133	82.7	177	-	-
Strontium	89.7	87.9	98.0	151	-	-
Thallium	121	112	92.2	219	-	-
Tin	83.5	74.0	88.6	170	-	-
Titanium	474	333	70.3	157	-	-
Uranium	51.9	51.9	100	60	-	-
Vanadium	68.1	62.6	91.9	213	-	-
Zinc	165	158	95.8	238	-	-

▪ Certificate of Analysis ▪

1. The **Certified Values** are the actual gravimetric/volumetric "made-to" concentrations confirmed by ERA analytical verification. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The **Uncertainty** represents an expanded uncertainty and approximates a 95% confidence interval. The uncertainty is based on the characterization, homogeneity and stability characteristics of the product, multiplied by a coverage factor ($k=2$). The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product. The formula used to calculate the expanded uncertainty is:

$$U_{\text{expanded}} = k * \text{SQRT}((U_{\text{char}})^2 + (U_{\text{homogen}})^2 + (U_{\text{LTS}})^2 + (U_{\text{STS}})^2 + (U_{\text{RSS}})^2)$$

Where:

U_{expanded} = Expanded uncertainty.

k = Coverage factor.

U_{char} = Combined standard uncertainty of the manufacturing and/or analytical verification assessment.

U_{homogen} = Standard uncertainty of the homogeneity assessment.

U_{LTS} = Standard uncertainty associated with long-term stability.

U_{STS} = Standard uncertainty associated with short-term (transport) stability.

U_{RSS} = Standard uncertainty associated with repeated sampling of the product (where permitted by product use instructions).

3. The **QC Performance Acceptance Limits (QC PALs™)** are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.

4. The **PT Performance Acceptance Limits (PT PALs™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAP proficiency testing requirements. Use the PT PALs™ when analyzing this certified reference material alongside USEPA and NELAP compliant PT study materials. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and therefore, the acceptance limits of this certified reference material and any PT study material may differ relative to their difference in concentrations.

5. The **PT Performance Data** include the mean value, percent recovery and number of data points reported by laboratories in our Proficiency Testing study compared to the Certified Values. In the event this lot was not used in a proficiency testing scheme, the data displayed was generated internally by ERA.

6. Where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. **Analytical Traceability Recovery (%)** = $[(\% \text{ recovery ERA certified reference material})/(\% \text{ recovery NIST SRM})]*100$

The traceability data shown were compiled by analyzing this ERA certified reference material and/or its associated stock solution(s) against the applicable NIST SRMs.

7. The **Reference Values** are equal to the mean recoveries for the parameters as determined in an interlaboratory round robin study. The **Reference Values** represent the expected performance for the analytes in this standard. ERA recommends using the **Reference Values** when assessing or evaluating your results.

8. **Metrological Traceability.** This certified reference material is metrologically traceable to NIST mass reference materials through an unbroken chain of comparisons.

9. For additional information on this product such as intended use, storage information, instructions for use, minimum sample size, and safety information, please refer to the Product Use Instructions provided.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer

Brian Miller

Quality Officer

Matthew Seebeck

Brian Miller

Matthew Seebeck





A Waters Company

Certified Reference Material

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D113-540
Certificate Issue Date: March 23, 2021
Expiration Date: October 13, 2024
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 090119.

CERTIFICATION



Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8630	12.0	4420 - 12800	4370 - 12900
Antimony	256	129	16.8	0.742 - 257	25.6 - 323
Arsenic	91.6	84.5	15.1	70.0 - 99.0	59.2 - 110
Barium	259	249	9.94	206 - 292	187 - 311
Beryllium	175	163	3.89	135 - 191	122 - 204
Boron	95.7	76.7	12.8	55.7 - 97.7	48.0 - 107
Cadmium	107	99.0	11.5	82.2 - 116	74.2 - 124
Calcium	5190	4760	11.8	3890 - 5640	3460 - 6070
Chromium	129	122	14.6	101 - 144	85.7 - 159
Cobalt	63.6	61.7	11.5	51.9 - 71.6	46.3 - 77.2
Copper	62.3	61.5	12.3	51.9 - 71.0	46.1 - 76.8
Iron	15000	14500	15.7	8860 - 20100	5190 - 23800
Lead	122	123	13.9	103 - 144	88.3 - 158
Lithium	6.42	7.30	18.7	5.13 - 9.48	3.20 - 11.4
Magnesium	2570	2360	8.87	1810 - 2920	1480 - 3250
Manganese	470	456	13.4	375 - 538	350 - 563
Mercury	22.1	18.9	14.5	13.0 - 24.8	11.3 - 26.4
Molybdenum	80.1	72.8	11.0	58.7 - 87.0	50.5 - 95.2
Nickel	143	135	14.2	112 - 158	94.7 - 176
Potassium	2420	2090	8.21	1480 - 2700	1240 - 2940
Selenium	128	121	11.7	96.9 - 146	80.4 - 162
Silver	45.4	44.1	6.69	35.5 - 52.8	30.7 - 57.6
Sodium	161	136	9.34	97.4 - 174	48.1 - 223
Strontium	82.2	82.3	8.42	67.4 - 97.1	58.6 - 106

Page 1 of 4 Lot: D113-540

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Certified Reference Material

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Thallium	154	144	7.54	117 - 171	101 - 187
Tin	89.7	79.8	14.0	62.2 - 97.4	43.5 - 116
Titanium	705	546	10.3	123 - 969	118 - 974
Uranium	29.5	30.9	3.38	23.9 - 37.9	21.3 - 40.5
Vanadium	196	186	14.2	148 - 224	138 - 235
Zinc	307	295	10.4	240 - 351	207 - 384

Calculation of 6010B Metals

Aqueous Samples

The instrument will calculate the concentration ($\mu\text{g/L}$). This value is divided by 1000 to convert the units to mg/L . If the sample is diluted (DF), the result is multiplied by the DF to generate the final result.

$$\text{Result, mg/L} = C_s \times (1\text{mg}/1000\mu\text{g}) \times (\text{DF})$$

Where:

C_s = Concentration of sample ($\mu\text{g/L}$)

DF = Dilution Factor

Soil or Solid Samples

Soil samples are calculated as follows:

$$\text{Result, mg/Kg} = \frac{C_s \times (1\text{mg}/1000\mu\text{g}) \times (\text{DF})}{A}$$

Where:

C_s = Concentration of sample ($\mu\text{g/L}$)

DF = Dilution Factor

$$A = \frac{\text{Sample weight (grams)}}{\text{Final Volume (mL)}}$$

Dry weight correction

Dry weight correction is calculated as follows:

$$\text{Final concentration in mg/Kg, dry weight} = \frac{\text{Result, mg/Kg}}{\%_{\text{solids}}}$$

Where:

$\%_{\text{solids}}$ = Percent Solids, as a decimal value

Sequence Trace 4

9/20/2024 4:21:41 PM



LabBook: WG1973931_09192024T4.imexp

Index:	Label:	Rack	Vial	Start time:
1	xBlank TAA Trace4	0	1	9/19/2024 4:55:41 PM
2	xICAL	0	2	9/19/2024 5:02:07 PM
3	Blank TAA Trace4	0	1	9/19/2024 5:10:25 PM
4	ICAL	0	2	9/19/2024 5:16:48 PM
5	ICV	0	3	9/19/2024 5:52:16 PM
6	ICB	0	4	9/19/2024 5:58:20 PM
7	ICV	0	10	9/19/2024 6:04:46 PM
8	ICB	0	4	9/19/2024 6:10:52 PM
9	LLOQ	0	5	9/19/2024 6:17:18 PM
10	xICSA not enough volume	0	6	9/19/2024 6:23:42 PM
11	ICSA	0	6	9/19/2024 6:32:27 PM
12	xSIC Multi not enough volume	0	7	9/19/2024 6:57:47 PM
13	LDR Check	0	8	9/19/2024 7:04:43 PM
14	zICSA	0	6	9/20/2024 9:39:38 AM
15	SIC Multi	0	7	9/20/2024 9:46:22 AM
16	LLOQ 005 Zn pass	1	1	9/20/2024 9:54:41 AM
17	LLOQ 05 Fe pass	1	2	9/20/2024 10:01:03 AM
18	LDR 500 Ca pass	1	3	9/20/2024 10:07:17 AM
19	LDR 500 Na pass	1	4	9/20/2024 10:13:46 AM
20	LDR 20 B	1	5	9/20/2024 10:20:18 AM
21	CCV	0	3	9/20/2024 10:28:06 AM
22	CCB	0	4	9/20/2024 10:34:09 AM
23	WG1973498-1 WG1973498	1	6	9/20/2024 10:40:33 AM
24	WG1973498-2 WG1973498	1	7	9/20/2024 10:46:57 AM
25	L2452799-01 WG1973498	1	15	9/20/2024 10:53:10 AM
26	L2452868-06 WG1973498	1	16	9/20/2024 10:59:33 AM
27	L2453058-01 WG1973498	1	8	9/20/2024 11:05:57 AM
28	WG1973498-3 WG1973498	1	9	9/20/2024 11:12:17 AM
29	WG1973498-4 WG1973498	1	10	9/20/2024 11:18:30 AM
30	WG1973498-5 WG1973498	1	11	9/20/2024 11:24:42 AM
31	WG1973498-6D5 WG1973498	1	12	9/20/2024 11:30:55 AM
32	CCV	0	3	9/20/2024 11:37:19 AM
33	CCB	0	4	9/20/2024 11:43:21 AM
34	WG1973898-1 WG1973898	1	17	9/20/2024 11:51:58 AM
35	WG1973898-2 WG1973898	1	18	9/20/2024 11:58:30 AM
36	L2451391-25 WG1973498	1	13	9/20/2024 12:04:43 PM
37	L2451391-26 WG1973498	1	14	9/20/2024 12:10:59 PM
38	L2448058-04 WG1973898	1	19	9/20/2024 12:17:18 PM
39	WG1973898-3 WG1973898	1	20	9/20/2024 12:23:48 PM
40	WG1973898-4 WG1973898	1	21	9/20/2024 12:30:10 PM
41	WG1973898-5 WG1973898	1	22	9/20/2024 12:36:40 PM
42	WG1973898-6D5 WG1973898	1	23	9/20/2024 12:43:03 PM
43	CCV	0	3	9/20/2024 12:49:27 PM
44	CCB	0	4	9/20/2024 12:55:30 PM
45	WG1973830-1 WG1973830	1	24	9/20/2024 1:04:24 PM
46	WG1973830-2 WG1973830	1	25	9/20/2024 1:10:50 PM
47	L2452763-02 WG1973830	1	31	9/20/2024 1:17:00 PM
48	L2452825-01 WG1973830	1	32	9/20/2024 1:23:25 PM
49	L2452844-01 WG1973830	1	33	9/20/2024 1:29:44 PM
50	L2453053-01 WG1973830	1	26	9/20/2024 1:36:07 PM
51	WG1973830-3 WG1973830	1	27	9/20/2024 1:42:26 PM
52	WG1973830-4 WG1973830	1	28	9/20/2024 1:48:36 PM
53	WG1973830-5 WG1973830	1	29	9/20/2024 1:54:46 PM
54	WG1973830-6D5 WG1973830	1	30	9/20/2024 2:00:56 PM
55	CCV	0	3	9/20/2024 2:07:17 PM
56	CCB	0	4	9/20/2024 2:13:20 PM
57	WG1974186-17 WG1974186	1	34	9/20/2024 2:19:46 PM
58	WG1974186-18 WG1974186	1	35	9/20/2024 2:26:11 PM
59	L2453053-02 WG1974186	1	41	9/20/2024 2:32:24 PM
60	L2453053-03 WG1974186	1	42	9/20/2024 2:38:43 PM
61	L2453053-04 WG1974186	1	43	9/20/2024 2:45:02 PM
62	L2453053-01 WG1974186	1	36	9/20/2024 2:51:21 PM
63	WG1974186-19 WG1974186	1	37	9/20/2024 2:57:42 PM
64	WG1974186-20 WG1974186	1	38	9/20/2024 3:03:52 PM
65	WG1974186-21 WG1974186	1	39	9/20/2024 3:10:01 PM
66	WG1974186-22D5 WG1974186	1	40	9/20/2024 3:16:11 PM
67	CCV	0	3	9/20/2024 3:22:32 PM
68	CCB	0	4	9/20/2024 3:28:35 PM
69	L2453053-05 WG1974186	1	44	9/20/2024 3:39:59 PM
70	CCV	0	3	9/20/2024 3:49:02 PM
71	CCB	0	4	9/20/2024 3:55:05 PM
72	LLOQ	0	5	9/20/2024 4:01:31 PM

Sequence Trace 4

9/20/2024 4:21:41 PM



Sequence Trace 4

9/23/2024 11:30:14 AM



LabBook: WG1974423_09202024T4.imexp

Index:	Label:	Rack	Vial	Start time:
1	Blank CEY Trace4	0	1	9/20/2024 5:05:51 PM
2	ICAL	0	2	9/20/2024 5:12:14 PM
3	ICV	0	3	9/20/2024 5:21:18 PM
4	ICB	0	4	9/20/2024 5:27:21 PM
5	ICV	0	10	9/20/2024 5:33:47 PM
6	ICB	0	4	9/20/2024 5:39:54 PM
7	LLOQ	0	5	9/20/2024 5:46:19 PM
8	ICSA	0	6	9/20/2024 5:52:42 PM
9	SIC Multi	0	7	9/20/2024 5:59:28 PM
10	LDR Check	0	8	9/20/2024 6:06:24 PM
11	LLOQ 005 Zn pass	1	1	9/20/2024 6:17:02 PM
12	IEC/LDR 500 Ca Zn-	1	2	9/20/2024 6:25:51 PM
13	xLDR 500 Na	1	3	9/20/2024 6:32:19 PM
14	zIEC 500 Al	1	5	9/20/2024 6:39:29 PM
15	LLOQ 005 As pass	1	6	9/20/2024 6:50:15 PM
16	LDR 20 B pass	1	4	9/20/2024 6:56:39 PM
17	LDR 300 Na pass	1	7	9/20/2024 7:03:01 PM
18	CCV	0	3	9/20/2024 7:24:13 PM
19	CCB	0	4	9/20/2024 7:30:15 PM
20	L2453066-03 WG1973932	1	8	9/20/2024 7:45:33 PM
21	L2453069-01 WG1973932	1	9	9/20/2024 7:51:51 PM
22	L2453069-02 WG1973932	1	10	9/20/2024 7:58:11 PM
23	L2453069-03 WG1973932	1	11	9/20/2024 8:04:31 PM
24	eL2453695-01 WG1973932	1	12	9/20/2024 8:10:51 PM
25	eL2453695-02 WG1973932	1	13	9/20/2024 8:17:26 PM
26	eL2453695-03 WG1973932	1	14	9/20/2024 8:23:57 PM
27	L2453695-01d2 WG1973932	1	15	9/20/2024 8:30:36 PM
28	CCV	0	3	9/20/2024 8:36:54 PM
29	CCB	0	4	9/20/2024 8:42:57 PM
30	L2453695-02d2 WG1973932	1	16	9/20/2024 9:06:31 PM
31	L2453695-03d5 WG1973932	1	17	9/20/2024 9:12:46 PM
32	L2453058-02 WG1973498	1	18	9/20/2024 9:18:55 PM
33	xL2453058-03 WG1973498	1	19	9/20/2024 9:25:13 PM
34	L2453252-01 WG1973498	1	20	9/20/2024 9:31:32 PM
35	L2453252-02 WG1973498	1	21	9/20/2024 9:37:49 PM
36	L2453252-03 WG1973498	1	22	9/20/2024 9:44:08 PM
37	L2453389-01 WG1973498	1	23	9/20/2024 9:50:24 PM
38	CCV	0	3	9/20/2024 9:56:41 PM
39	CCB	0	4	9/20/2024 10:02:44 PM
40	L2453058-03 WG1973498	1	19	9/20/2024 10:11:58 PM
41	CCV	0	3	9/20/2024 10:32:21 PM
42	CCB	0	4	9/20/2024 10:38:24 PM
43	LLOQ	0	5	9/20/2024 10:44:49 PM



METALS ELN REPORT

Workgroup: WG1973498

Digestion

Prep Method	Acid Type 1	Acid 1 Lot	Acid Type 2	Acid 2 Lot	Spike Type	Lims Spike Lot	Spike Lot	Post Spike Spikelot	Spike Lot	Pipette Id
EPA 3005A	1:1 HNO3	tHN0324381 80400CLH	1:1 HCl	tHCL243712 0918EFM	METALS	METSPIKE2	IPS,FPS,MIX	METSPIKE2	IPS,FPS,MIX	140, 326

Additional Reagent/Std

Sample/ Type	Digestion Date	Analyst	Sample Vol ml	Ph	Spike Amt ml	Start Date/Time	Hot Block Unit	Temperatur e (C)	Stop Date/Time	Final Vol	Comments
L2451391-25 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2451391-26 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2452799-01 SAMP	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2452868-06 SAMP	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453058-01 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453058-02 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453058-03 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453252-01 SAMP	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453252-02 SAMP	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453252-03 SAMP	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453389-01 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973498- 1 BLANK	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	FM2437130422 CLH
WG1973498- 2 LCS	09/19/24 04:23	Christine Hamor	50	<2	.5	09/19/24 04:23	9	94.7	09/19/24 07:23	50	IPS243315040 5CLH



METALS ELN REPORT

Workgroup: WG1973498

Sample/ Type	Digestion Date	Analyst	Sample Vol ml	Ph	Spike Amt ml	Start Date/Time	Hot Block Unit	Temperature (C)	Stop Date/Time	Final Vol	Comments
WG1973498-3 MS	09/19/24 04:23	Christine Hamor	50	<2	.5	09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973498-4 MSD	09/19/24 04:23	Christine Hamor	50	<2	.5	09/19/24 04:23	9	94.7	09/19/24 07:23	50	ELN check:efm
WG1973498-5 PS	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973498-6 SERDIL	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	

Reagent	Actual Volume	Units
1:1 Hydrochloric Acid (H	.5	ml
1:1 Nitric Acid (HNO3)	1	ml

Inorganic Data (ICPMS Analysis)

Form 1 METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/23/24 15:41
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: NTB
Lab File ID	: WG1975085.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7429-90-5	Aluminum, Total	ND	0.0100	0.00327	U
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	0.02163	0.00050	0.00017	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-47-3	Chromium, Total	0.00054	0.00100	0.00017	J
7440-48-4	Cobalt, Total	0.00017	0.00050	0.00016	J
7440-50-8	Copper, Total	0.00058	0.00100	0.00038	J
7439-89-6	Iron, Total	0.0837	0.0500	0.0191	
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7439-96-5	Manganese, Total	0.05252	0.00100	0.00044	
7440-02-0	Nickel, Total	ND	0.00200	0.00055	U
7440-09-7	Potassium, Total	1.70	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	2.40	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	ND	0.01000	0.00341	U



Form 1 METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/23/24 16:13
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: NTB
Lab File ID	: WG1975085.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7429-90-5	Aluminum, Total	0.0496	0.0100	0.00327	
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	0.00024	0.00050	0.00016	J
7440-39-3	Barium, Total	0.01600	0.00050	0.00017	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-47-3	Chromium, Total	0.00086	0.00100	0.00017	J
7440-48-4	Cobalt, Total	ND	0.00050	0.00016	U
7440-50-8	Copper, Total	0.00042	0.00100	0.00038	J
7439-89-6	Iron, Total	0.0931	0.0500	0.0191	
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7439-96-5	Manganese, Total	0.00400	0.00100	0.00044	
7440-02-0	Nickel, Total	ND	0.00200	0.00055	U
7440-09-7	Potassium, Total	1.52	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	13.3	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	ND	0.01000	0.00341	U



Form 1 METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/23/24 16:18
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: NTB
Lab File ID	: WG1975085.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7429-90-5	Aluminum, Total	0.191	0.0100	0.00327	
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	0.00016	0.00050	0.00016	J
7440-39-3	Barium, Total	0.01590	0.00050	0.00017	
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-47-3	Chromium, Total	0.00057	0.00100	0.00017	J
7440-48-4	Cobalt, Total	ND	0.00050	0.00016	U
7440-50-8	Copper, Total	ND	0.00100	0.00038	U
7439-89-6	Iron, Total	0.0782	0.0500	0.0191	
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7439-96-5	Manganese, Total	0.00318	0.00100	0.00044	
7440-02-0	Nickel, Total	ND	0.00200	0.00055	U
7440-09-7	Potassium, Total	1.52	0.100	0.0309	
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	12.7	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	ND	0.01000	0.00341	U



Form 1 METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973497-1	Date Collected	: NA
Client ID	: WG1973497-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/23/24 14:40
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,6020B	Analyst	: NTB
Lab File ID	: WG1975085.pdf	Instrument ID	: ICPMSQ
Sample Amount	: 50ml	%Solids	: N/A
Digestion Method	: EPA 3005A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7429-90-5	Aluminum, Total	ND	0.0100	0.00327	U
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	ND	0.00050	0.00017	U
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-47-3	Chromium, Total	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Total	ND	0.00050	0.00016	U
7440-50-8	Copper, Total	ND	0.00100	0.00038	U
7439-89-6	Iron, Total	ND	0.0500	0.0191	U
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7439-96-5	Manganese, Total	ND	0.00100	0.00044	U
7440-02-0	Nickel, Total	ND	0.00200	0.00055	U
7440-09-7	Potassium, Total	ND	0.100	0.0309	U
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	ND	0.100	0.0293	U
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	ND	0.01000	0.00341	U



Form 2A

Initial and Continuing Calibration Verification

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : ICPMSQ Units : ug/l

Parameter	Initial Calibration			Continuing Calibration(s)							
	Lab ID	: R1879254-1		R1879254-4		R1879254-6		R1879254-9			
	Date Analyzed:	09/23/24 14:04		09/23/24 14:28		09/23/24 15:24		09/23/24 16:23			
	True	Found	%R	True	Found	%R	Found	%R	Found	%R	
Aluminum	50.0	45.4000	91	60.0000	56.8	95	58.7	98	58.9	98	
Antimony	50.0	45.7000	91	60.0000	57.5	96	57.6	96	59.7	100	
Arsenic	50.0	47.2000	94	60.0000	57.0	95	56.9	95	59.3	99	
Barium	50.0	46.4000	93	60.0000	58.0	97	58.5	98	60.5	101	
Beryllium	50.0	48.6000	97	60.0000	55.6	93	55.2	92	55.2	92	
Cadmium	50.0	46.8000	94	60.0000	57.7	96	57.2	95	59.0	98	
Chromium	50.0	46.6000	93	60.0000	55.5	92	54.2	90	55.8	93	
Cobalt	50.0	47.4000	95	60.0000	57.1	95	56.9	95	58.5	98	
Copper	50.0	48.2000	96	60.0000	58.0	97	57.2	95	59.1	98	
Iron	5000	4690.0000	94	6000.0000	5630	94	5620	94	5780	96	
Lead	50.0	45.3000	91	60.0000	57.9	96	56.9	95	60.3	100	
Manganese	50.0	46.8000	94	60.0000	56.0	93	56.6	94	57.4	96	
Nickel	50.0	47.6000	95	60.0000	57.5	96	57.2	95	58.8	98	
Potassium	5000	4760.0000	95	6000.0000	5950	99	6110	102	6060	101	
Selenium	50.0	46.8000	94	60.0000	57.0	95	58.2	97	60.4	101	
Silver	50.0	45.0000	90	60.0000	58.5	98	58.2	97	60.2	100	
Sodium	5000	4690.0000	94	6000.0000	5680	95	5860	98	5910	98	
Thallium	50.0	47.8000	96	60.0000	60.6	101	59.7	100	63.1	105	
Vanadium	50.0	46.7000	93	60.0000	55.6	93	55.0	92	56.4	94	
Zinc	50.0	48.2000	96	60.0000	58.0	97	57.6	96	59.8	100	

Acceptance Criteria:

ICV: 95-105% (Methods 200.7, 245.1)
 90-110% (Methods 200.8, 6010, 6020, 7470, 7471, 7474)
 85-115% (Method 1631)

 CCV: 90-110% (Methods 200.7, 245.1, 6010, 6020, 7474)
 85-115% (Methods 200.8, 1631)
 80-120% (Methods 7470, 7471)



Form 3 Blanks

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : ICPMSQ

Parameter	Initial Calibration Blank		Continuing Calibration Blank(s)				Preparation Blank	
	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q
Aluminum	3.27	U	3.27	U	3.27	U	3.27	U
Antimony	0.429	U	0.429	U	0.429	U	0.429	U
Arsenic	0.165	U	0.165	U	0.165	U	0.165	U
Barium	0.173	U	0.173	U	0.173	U	0.173	U
Beryllium	0.107	U	0.107	U	0.107	U	0.107	U
Cadmium	0.0599	U	0.0599	U	0.0599	U	0.0599	U
Chromium	0.178	U	0.178	U	0.178	U	0.178	U
Cobalt	0.163	U	0.163	U	0.163	U	0.163	U
Copper	0.384	U	0.384	U	0.384	U	0.384	U
Iron	19.1	U	19.1	U	19.1	U	19.1	U
Lead	0.343	U	0.343	U	0.343	U	0.343	U
Manganese	0.440	U	0.440	U	0.440	U	0.440	U
Nickel	0.556	U	0.556	U	0.556	U	0.556	U
Potassium	30.9	U	30.9	U	30.9	U	30.9	U
Selenium	1.73	U	1.73	U	1.73	U	1.73	U
Silver	0.163	U	0.163	U	0.163	U	0.163	U
Sodium	29.3	U	29.3	U	29.3	U	29.3	U
Thallium	0.281	J	0.282	J	0.294	J	0.282	J
Vanadium	1.57	U	1.57	U	1.57	U	1.57	U
Zinc	3.41	U	3.41	U	3.41	U	3.41	U

Form 4a Interference Check Sample

Client : Roux Env. Eng. & Geology, DPC
Project Name : CORAM MATERIALS: CLOSED LF
Instrument ID : ICPMSQ

Lab Number : L2453058
Project Number : 2232.0006Y005
Concentration Units : ug/l

Analyte	True		Initial Found		Final Found					
	Lab ID : Analysis Date :		R1879254-3 09/23/24 14:14							
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	100000		97300	97						
Antimony			0.242							
Arsenic			0.572							
Barium			1.35							
Beryllium			0.0192							
Cadmium			0.596							
Chromium			1.18							
Cobalt			2.23							
Copper			1.20							
Iron	250000		232000	93						
Lead			1.76							
Manganese			5.02							
Nickel			2.63							
Potassium	100000		105000	105						
Selenium			2.95							
Silver			0.0424							
Sodium	250000		271000	108						
Thallium			0.112							
Vanadium			0.0682							
Zinc			1.80							

Acceptance Criteria: Methods 200.7, 200.8, 6010, 6020

ICSA: 80-120%

ICSAB: 80-120%



Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : NA Lab Sample ID : L2453005-01 Matrix Spike : WG1973497-3 Matrix Spike Dup : WG1973497-4	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER MS Analysis Date : 09/23/24 14:54 MSD Analysis Date : 09/23/24 14:59

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample			Matrix Spike Duplicate			RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Spike Added (mg/l)	Spike Conc. (mg/l)	%R			
Aluminum, Total	0.235	2	2.31	104	2	2.31	104	0	75-125	20
Antimony, Total	0.0023J	0.5	0.5132	103	0.5	0.5213	104	2	75-125	20
Arsenic, Total	0.00903	0.12	0.1346	105	0.12	0.1351	105	0	75-125	20
Barium, Total	0.1842	2	2.302	106	2	2.344	108	2	75-125	20
Beryllium, Total	ND	0.05	0.05071	101	0.05	0.05227	104	3	75-125	20
Cadmium, Total	ND	0.053	0.05372	101	0.053	0.05497	104	2	75-125	20
Chromium, Total	0.0011	0.2	0.1981	98	0.2	0.1994	99	1	75-125	20
Cobalt, Total	0.0014	0.5	0.5139	102	0.5	0.5231	104	2	75-125	20
Copper, Total	0.0012	0.25	0.2645	105	0.25	0.2626	104	1	75-125	20
Iron, Total	19.2	1	21.3	210 Q	1	21.3	210 Q	0	75-125	20
Lead, Total	0.0040	0.53	0.5382	101	0.53	0.5484	103	2	75-125	20
Manganese, Total	2.416	0.5	3.150	147 Q	0.5	3.195	156 Q	1	75-125	20
Nickel, Total	0.0745	0.5	0.5958	104	0.5	0.6062	106	2	75-125	20
Potassium, Total	18.9	10	30.8	119	10	30.9	120	0	75-125	20
Selenium, Total	ND	0.12	0.120	100	0.12	0.120	100	0	75-125	20
Silver, Total	ND	0.05	0.04934	99	0.05	0.05011	100	2	75-125	20
Sodium, Total	158	10	172.	140 Q	10	172.	140 Q	0	75-125	20
Thallium, Total	ND	0.12	0.1306	109	0.12	0.1328	111	2	75-125	20
Vanadium, Total	0.0138	0.5	0.5143	100	0.5	0.5189	101	1	75-125	20
Zinc, Total	0.0048J	0.5	0.5176	104	0.5	0.5206	104	1	75-125	20



Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : MW-15R Lab Sample ID : L2453058-01 Matrix Spike : WG1973497-7 Matrix Spike Dup : WG1973497-8	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER MS Analysis Date : 09/23/24 15:45 MSD Analysis Date : 09/23/24 15:50

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample			Matrix Spike Duplicate			RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Spike Added (mg/l)	Spike Conc. (mg/l)	%R			
Aluminum, Total	ND	2	1.98	99	2	2.06	103	4	75-125	20
Antimony, Total	ND	0.5	0.4041	81	0.5	0.4231	85	5	75-125	20
Arsenic, Total	ND	0.12	0.1214	101	0.12	0.1243	104	2	75-125	20
Barium, Total	0.02163	2	2.121	105	2	2.149	106	1	75-125	20
Beryllium, Total	ND	0.05	0.05010	100	0.05	0.05203	104	4	75-125	20
Cadmium, Total	ND	0.053	0.05430	102	0.053	0.05535	104	2	75-125	20
Chromium, Total	0.00054J	0.2	0.1906	95	0.2	0.1941	97	2	75-125	20
Cobalt, Total	0.00017J	0.5	0.5037	101	0.5	0.5171	103	3	75-125	20
Copper, Total	0.00058J	0.25	0.2582	103	0.25	0.2641	106	2	75-125	20
Iron, Total	0.0837	1	1.11	103	1	1.14	106	3	75-125	20
Lead, Total	ND	0.53	0.5240	99	0.53	0.5386	102	3	75-125	20
Manganese, Total	0.05252	0.5	0.5479	99	0.5	0.5600	101	2	75-125	20
Nickel, Total	ND	0.5	0.5124	102	0.5	0.5226	104	2	75-125	20
Potassium, Total	1.70	10	12.0	103	10	12.4	107	3	75-125	20
Selenium, Total	ND	0.12	0.122	102	0.12	0.124	103	2	75-125	20
Silver, Total	ND	0.05	0.04958	99	0.05	0.05055	101	2	75-125	20
Sodium, Total	2.40	10	13.2	108	10	13.7	113	4	75-125	20
Thallium, Total	ND	0.12	0.1274	106	0.12	0.1317	110	3	75-125	20
Vanadium, Total	ND	0.5	0.4735	95	0.5	0.4837	97	2	75-125	20
Zinc, Total	ND	0.5	0.5246	105	0.5	0.5331	107	2	75-125	20



Form 7 Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC
 Project Name : CORAM MATERIALS: CLOSED LF
 Client Sample ID : NA
 Lab Sample ID : WG1973497-2
 Dup Sample ID :

Lab Number : L2453058
 Project Number : 2232.0006Y005
 Matrix : WATER
 LCS Analysis Date : 09/23/24 14:45
 LCSD Analysis Date :

Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Aluminum, Total	2.00	2.10	105.					80-120	20
Antimony, Total	0.500	0.408	82.					80-120	20
Arsenic, Total	0.120	0.129	107.					80-120	20
Barium, Total	2.00	2.21	110.					80-120	20
Beryllium, Total	0.0500	0.0514	103.					80-120	20
Cadmium, Total	0.0530	0.0568	107.					80-120	20
Chromium, Total	0.200	0.205	103.					80-120	20
Cobalt, Total	0.500	0.521	104.					80-120	20
Copper, Total	0.250	0.268	107.					80-120	20
Iron, Total	1.00	1.12	112.					80-120	20
Lead, Total	0.530	0.571	108.					80-120	20
Manganese, Total	0.500	0.535	107.					80-120	20
Nickel, Total	0.500	0.530	106.					80-120	20
Potassium, Total	10.0	11.2	112.					80-120	20
Selenium, Total	0.120	0.127	106.					80-120	20
Silver, Total	0.0500	0.0524	105.					80-120	20
Sodium, Total	10.0	11.2	112.					80-120	20
Thallium, Total	0.120	0.139	116.					80-120	20
Vanadium, Total	0.500	0.505	101.					80-120	20
Zinc, Total	0.500	0.545	109.					80-120	20



Form 12

Preparation Log

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
Matrix : WATER Prep Method : EPA 3005A

Sample Number	Preparation Date	Weight (gram)	Volume (mL)
L2453058-01	09/19/24 04:23	-	50
L2453058-02	09/19/24 04:23	-	50
L2453058-03	09/19/24 04:23	-	50
WG1973497-1	09/19/24 04:23	-	50
WG1973497-2	09/19/24 04:23	-	50
WG1973497-3	09/19/24 04:23	-	50
WG1973497-4	09/19/24 04:23	-	50
WG1973497-7	09/19/24 04:23	-	50
WG1973497-8	09/19/24 04:23	-	50
WG1973497-9	09/19/24 04:23	-	50
WG1973497-10	09/19/24 04:23	-	50

Form 13

Analysis Run Log

Client : Roux Env. Eng. & Geology, DPC
Project Name : CORAM MATERIALS: CLOSED LF
Instrument ID : ICPMSQ
Start Date : 09/23/24 10:05

Lab Number : L2453058
Project Number : 2232.0006Y005
Analysis Method : 1,6020B
End Date : 09/23/24 16:27

[illegible]

Form 14

ICP-MS Tune

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
Lab Sample ID : R1879254-8 Analysis Date : 09/23/24 10:05
ICP-MS Instrument : iCAP Q

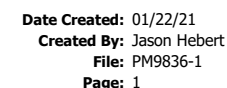
Mass Element	Avg Measured Mass (amu)	Avg. Peak Width at 10% Peak Height (amu)	%RSD
59 Co	58.9496	0.746	0.9
115 In	114.9146	0.731	1.4
238 U	238.0616	0.698	0.3

Form 15

ICP-MS Internal Standards Relative Intensity Summary

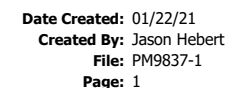
Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : ICPMSQ Analysis Method : 1,6020B
 Start Date : 09/23/24 End Date : 09/23/24

Sample #	Time	Internal Standards %RI For:				
		Lithium	Scandium	Ge	In	Bismuth
R1879254-1 ICV	14:04:24	99	115	104	105	110
R1879254-2 ICB	14:09:04	100	107	101	104	104
R1879254-3 ICSEA	14:14:10	156	203	117	105	77
R1879254-4 CCV	14:28:09	105	122	112	110	106
R1879254-5 CCB	14:32:50	102	113	109	109	109
WG1973497-1 BLANK	14:40:48	105	117	110	111	116
WG1973497-2 LCS	14:45:25	102	103	109	106	101
WG1973497-3 MS	14:54:40	112	134	117	114	106
WG1973497-4 MSD	14:59:18	111	127	115	112	103
R1879254-6 CCV	15:24:22	129	152	128	123	111
R1879254-7 CCB	15:29:03	128	138	126	125	112
L2453058-01	15:41:15	125	137	122	118	110
WG1973497-7 MS	15:45:54	128	140	124	118	111
WG1973497-8 MSD	15:50:34	126	140	125	118	110
WG1973497-9 PS	15:55:14	120	141	121	115	113
WG1973497-10 SERDIL	15:59:54	122	132	119	114	112
L2453058-02	16:13:48	128	141	127	120	106
L2453058-03	16:18:25	125	140	127	123	109
R1879254-9 CCV	16:23:03	121	133	121	116	106
R1879254-10 CCB	16:27:45	117	126	119	114	110

[illegible]

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



[illegible]

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



System

Start time: 9/23/2024 10:05:48 AM
Instrument: iCAP Q
Operator: ALPHALAB\Metals-Instrument
Template: KED AGD
Instrument Serial Number: 03031R
Last Autotune: Autotune-Torch Align Custom Alpha I.S. only-20240918-211101526.imatdat
Solution: 1 ppb Tune B in 2% HNO3 and 0.5% HCl.

Sensitivity & Stability Test

Result	Runs	Sweeps
Passed	5	15

Sensitivity

Analyte	Result	Value	Condition	Limit
Bkg4.5	Passed	0.04 CPS	Less than	5.0 CPS
Bkg220.7	Passed	0.0 CPS	Less than	2.0 CPS
59Co/35Cl.160	Passed	47.8	Greater than	18.0
59Co	Passed	32,275.0 CPS	Greater than	300.0 CPS
238U	Passed	154,051.0 CPS	Greater than	5,000.0 CPS
140Ce.160/140Ce	Passed	0.0064	Less than	0.01
115In	Passed	26,550.0 CPS	Greater than	700.0 CPS

Stability

Analyte	Value	Limit
59Co	0.9%	5
238U	0.3%	5
115In	1.4%	5

Mass Calibration Test

Result	Channels	Dwell	MeasureWidth	PointSpacing	Sweeps
Passed	75	0.04	1.5	0.02	10

Analyte	Result	Centroid Mass [u]	Offset	Peak width [u]	Peak width min [u]	Peak width max [u]
59Co	Passed	58.9496	0.0164	0.746	0.650	0.850
115In	Passed	114.9146	0.0107	0.731	0.650	0.850
238U	Passed	238.0616	0.0109	0.698	0.650	0.850

Tune Settings

Parameter	Value
Additional Gas Flow 1	41.00
Additional Gas Flow 2	0.00
Additional Gas Flow 3	0.00
Angular Deflection	-374.02
Auxiliary Flow	0.80
CCT Bias	-21.00
CCT Entry Lens	-102.00
CCT Exit Lens	-40.00
CCT Focus Lens	-1.92
CCT1 Flow	3.83
CCT1 Shut-Off Valve	1.00
CCT2 Flow	0.00
CCT2 Shut-Off Valve	0.00
Cool Flow	14.00
D1 Lens	-351.40
D2 Lens	-158.00
Deflection Entry Lens	-35.00
Dry Pump Speed	0.00
Extraction Lens 1 Negative	0.00
Extraction Lens 1 Polarity	0.00
Extraction Lens 1 Positive	0.00
Extraction Lens 2	-170.00
Focus Lens	-7.00
Nebulizer Flow	0.47
Peristaltic Pump Speed	17.00
Plasma Power	1550.00
Pole Bias	-18.00
Quad Entry Lens	-19.00
Sampling Depth	5.00
Spray Chamber Temperature	2.70
Torch Horizontal Position	-0.23
Torch Vertical Position	0.54
Virtual CCT Mass Maximum Dac Limit Set	4095.00
Virtual CCT Mass parameter b	1.00
Virtual CCT Mass to Dac Factor	60.00
Virtual CCT Mass to Dac Offset	80.00

Vacuum Check

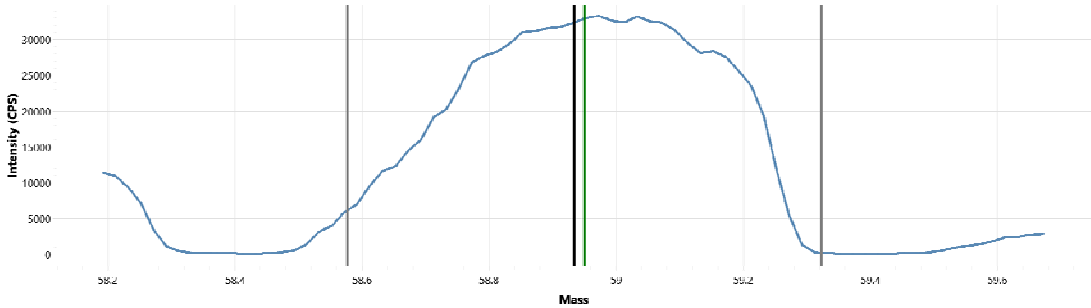
Parameter	Result	Value
Analyzer Pressure	Vacuum ok	3.148e-7
Interface Pressure		1.654e+0

Detector Voltages

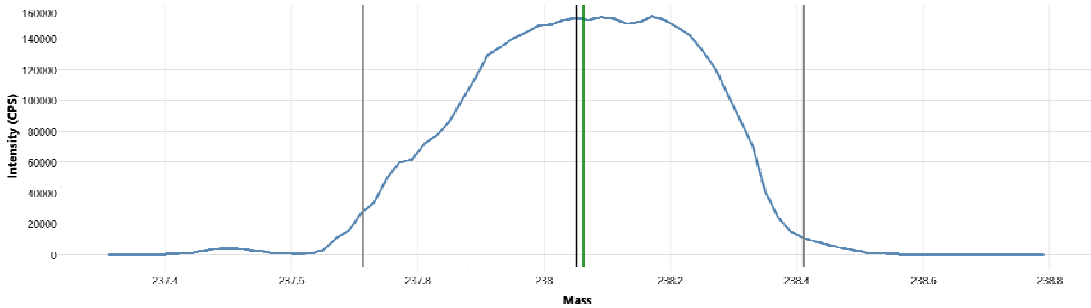
Analog	Counting
-1850.00	1625.00

Mass Calibration Peaks

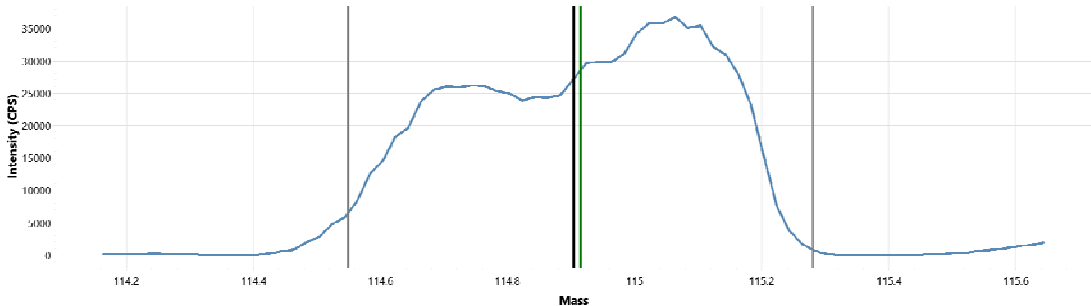
Analyte: 59Co



Analyte: 238U

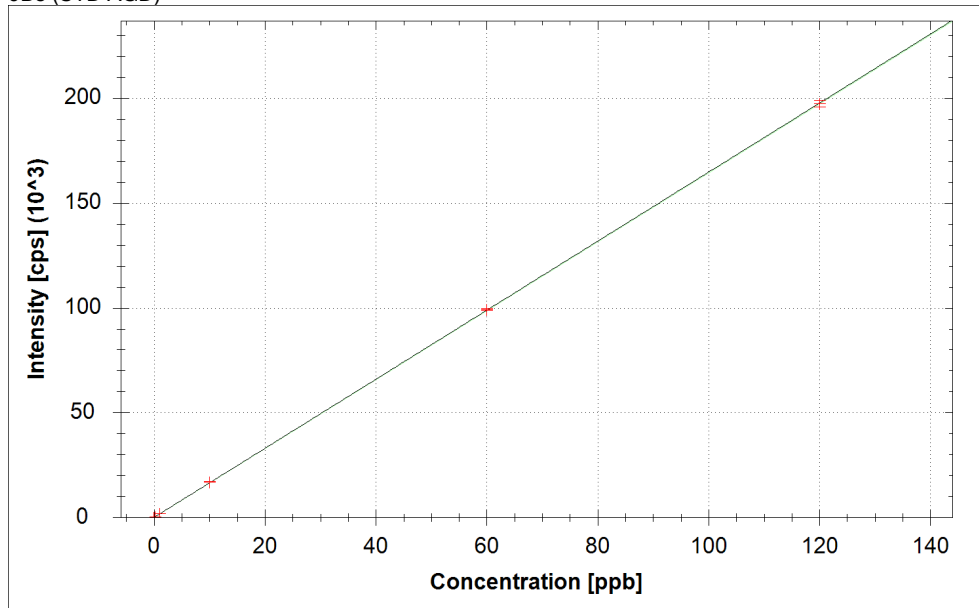


Analyte: 115In



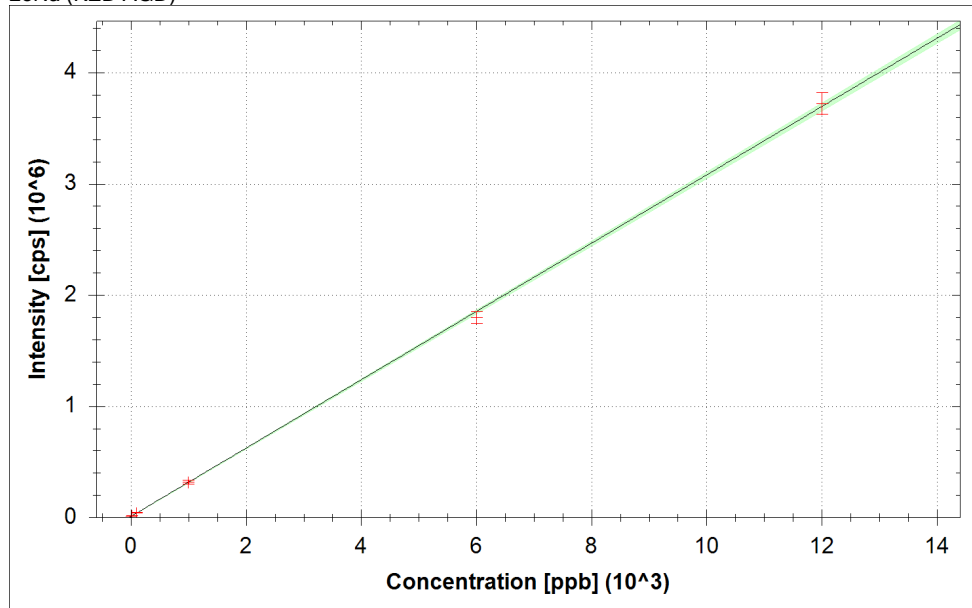
Calibration Curves:

9Be (STD AGD)



$f(x) = 1646.3491x + 45.8043$
 $R^2 = 1.0000$
BEC = 0.028 ppb
LoD = 0.0149 ppb

23Na (KED AGD)



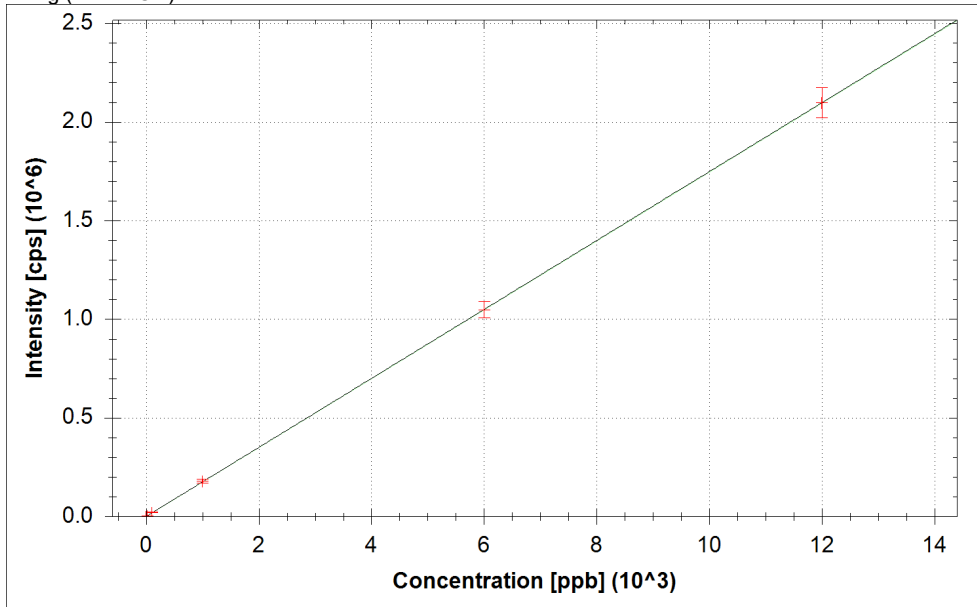
$f(x) = 307.0025x + 9510.9804$
 $R^2 = 0.9997$
BEC = 30.980 ppb
LoD = 6.3239 ppb

Alpha ICPMSQ Data with SRD

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24Mg (KED AGD)



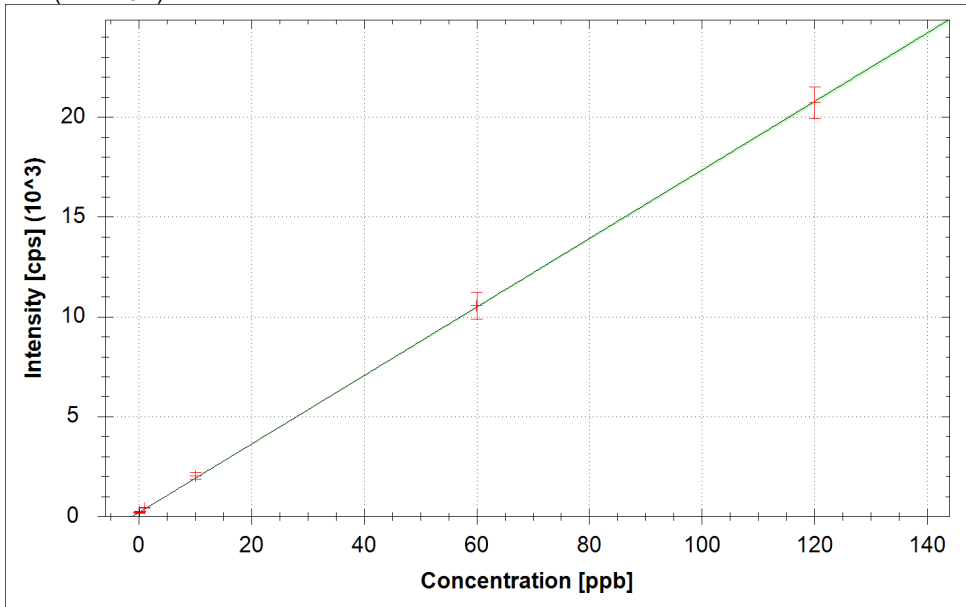
$$f(x) = 174.7005x + 537.8348$$

$$R^2 = 1.0000$$

$$\text{BEC} = 3.079 \text{ ppb}$$

$$\text{LoD} = 1.8432 \text{ ppb}$$

27Al (KED AGD)



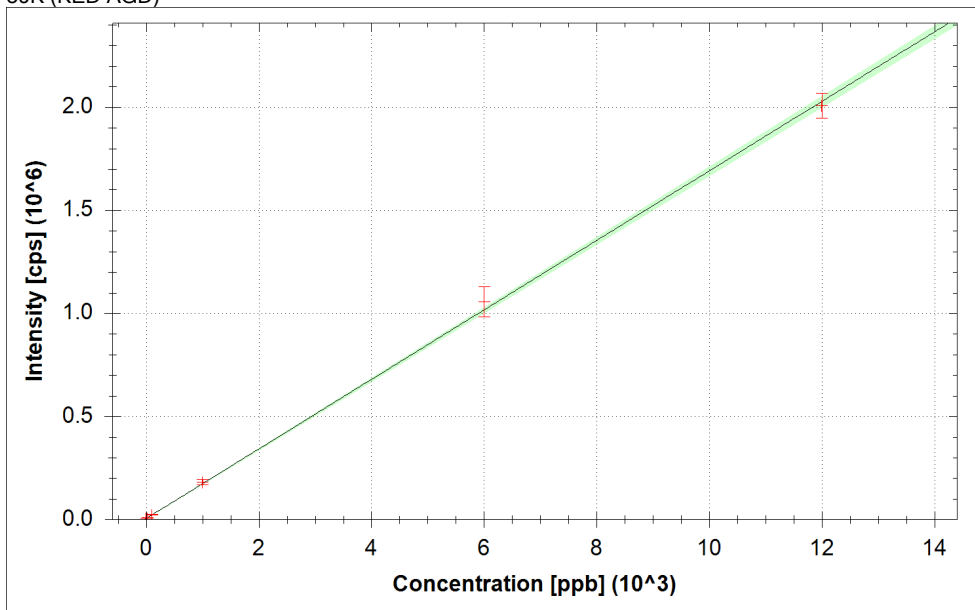
$$f(x) = 171.4177x + 193.4537$$

$$R^2 = 0.9999$$

$$\text{BEC} = 1.129 \text{ ppb}$$

$$\text{LoD} = 0.5246 \text{ ppb}$$

39K (KED AGD)



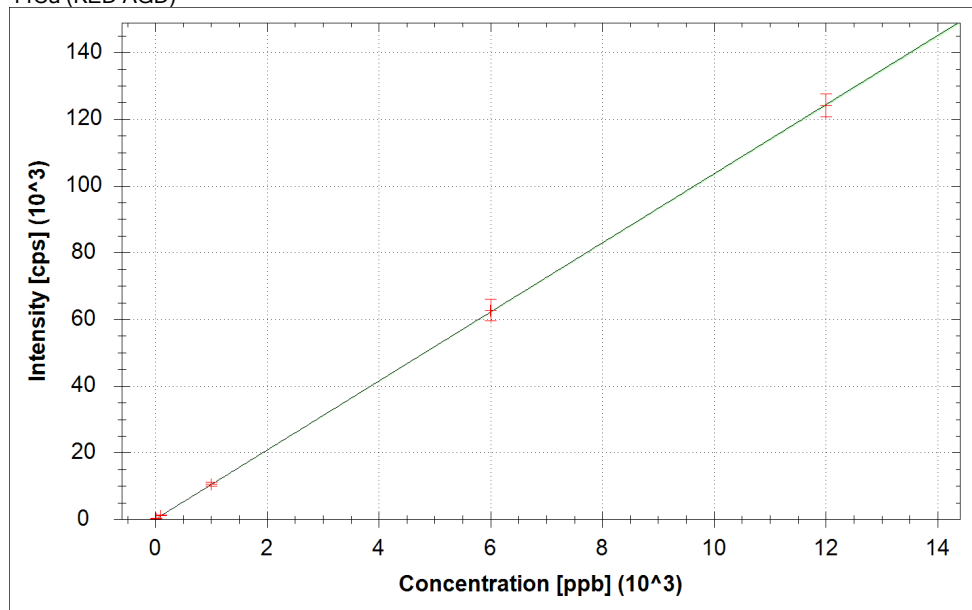
$$f(x) = 168.5747x + 4700.2471$$

$$R^2 = 0.9994$$

$$\text{BEC} = 27.882 \text{ ppb}$$

$$\text{LoD} = 2.0605 \text{ ppb}$$

44Ca (KED AGD)



$$f(x) = 10.3533x + 72.3614$$

$$R^2 = 1.0000$$

$$\text{BEC} = 6.989 \text{ ppb}$$

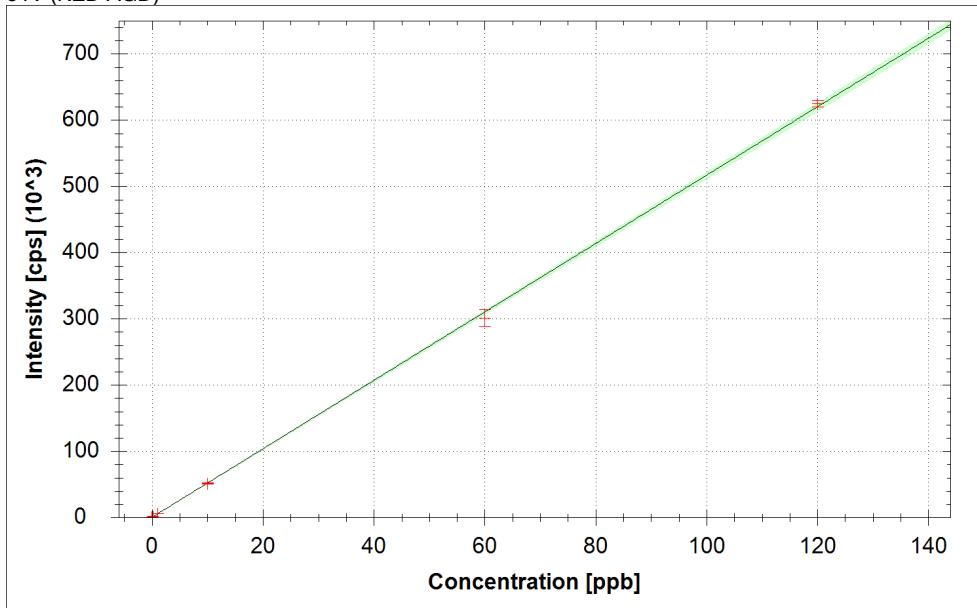
$$\text{LoD} = 6.2939 \text{ ppb}$$

Alpha ICPMSQ Data with SRD

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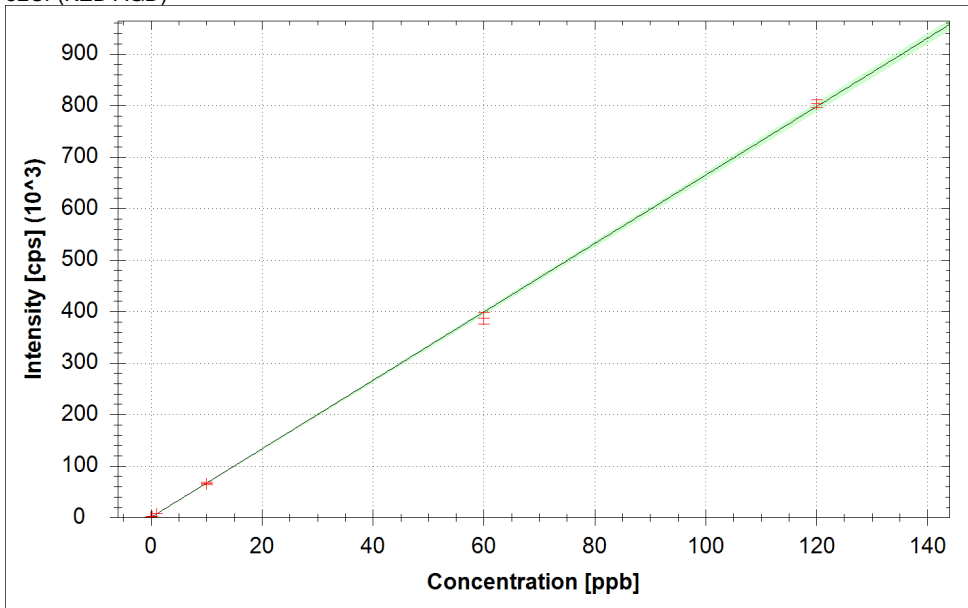


51V (KED AGD)



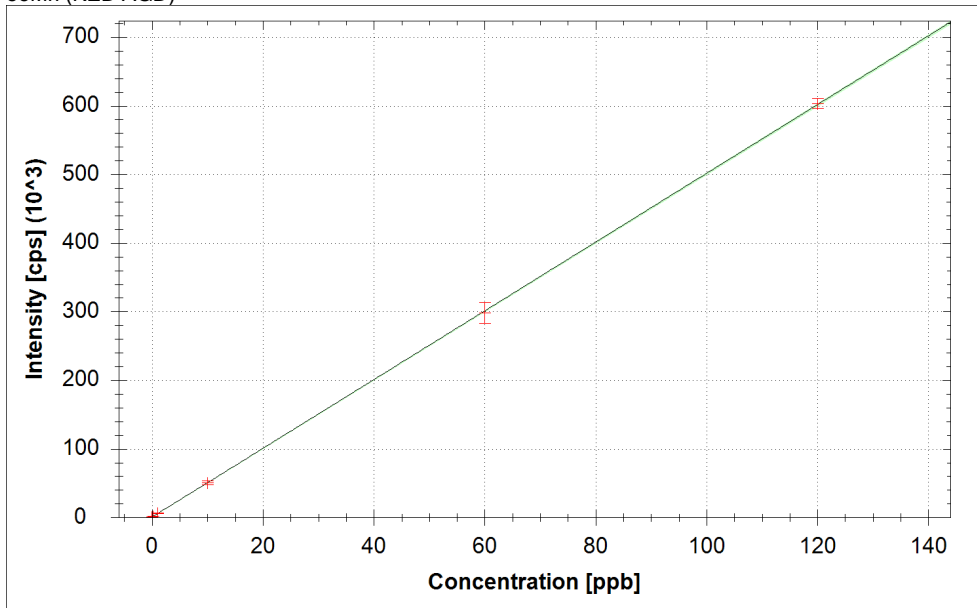
$f(x) = 5164.1202 \cdot x + 392.3322$
 $R^2 = 0.9997$
BEC = 0.076 ppb
LoD = 0.0237 ppb

52Cr (KED AGD)



$f(x) = 6643.0274 \cdot x + 292.3764$
 $R^2 = 0.9997$
BEC = 0.044 ppb
LoD = 0.0216 ppb

55Mn (KED AGD)



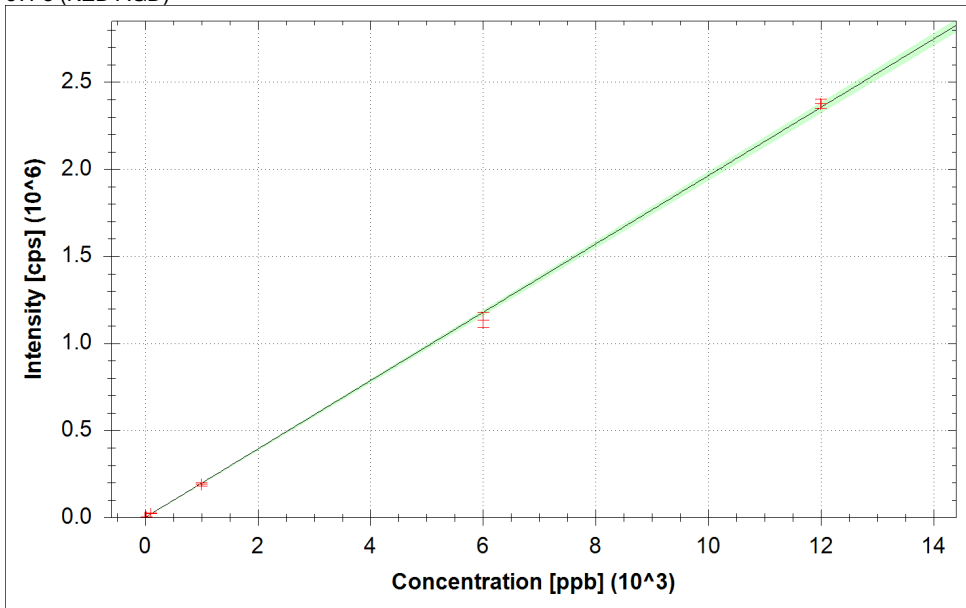
$$f(x) = 5008.9556 \cdot x + 586.2697$$

$$R^2 = 1.0000$$

$$\text{BEC} = 0.117 \text{ ppb}$$

$$\text{LoD} = 0.0294 \text{ ppb}$$

57Fe (KED AGD)



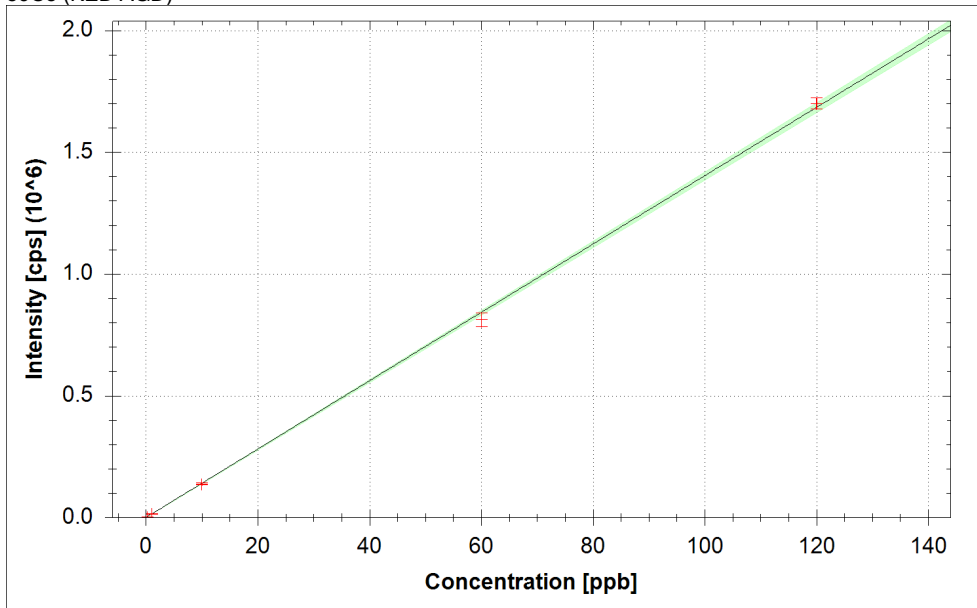
$$f(x) = 196.1488 \cdot x + 482.7287$$

$$R^2 = 0.9995$$

$$\text{BEC} = 2.461 \text{ ppb}$$

$$\text{LoD} = 0.5750 \text{ ppb}$$

59Co (KED AGD)



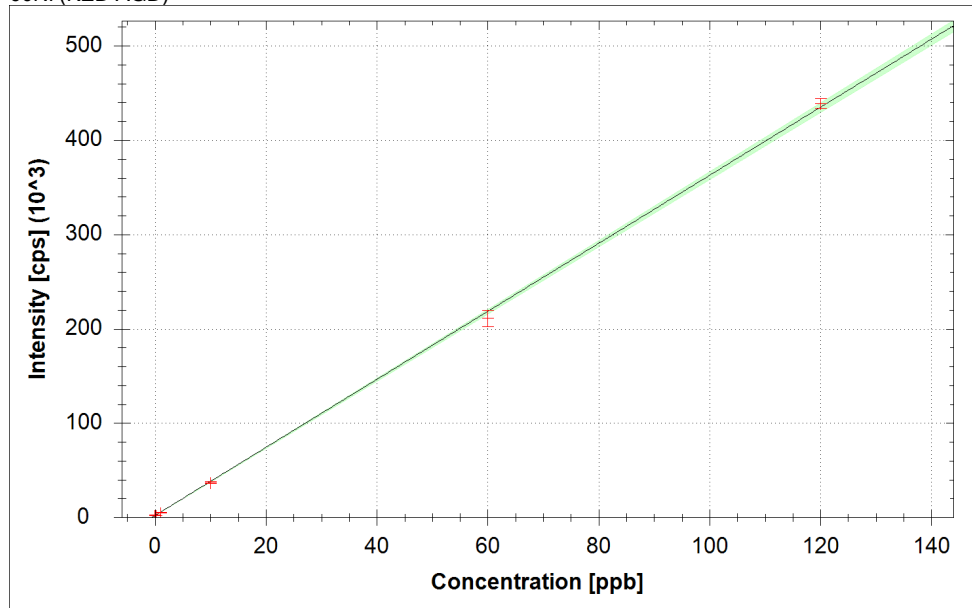
$$f(x) = 14028.6775 \cdot x + 50.4102$$

$$R^2 = 0.9995$$

$$\text{BEC} = 0.004 \text{ ppb}$$

$$\text{LoD} = 0.0041 \text{ ppb}$$

60Ni (KED AGD)

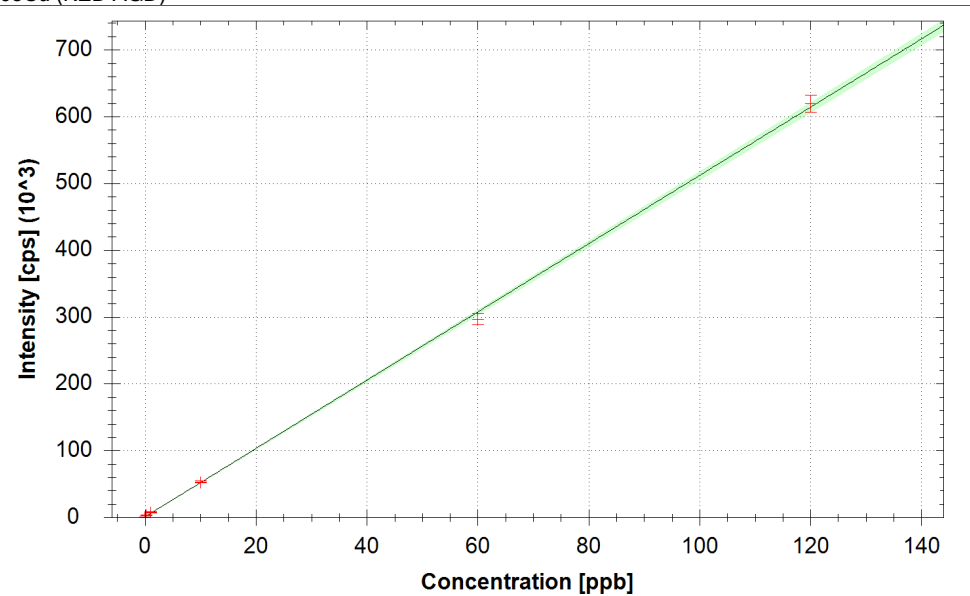


$$f(x) = 3605.3182 \cdot x + 2153.2229$$

$$R^2 = 0.9995$$

$$\text{BEC} = 0.597 \text{ ppb}$$

$$\text{LoD} = 0.1435 \text{ ppb}$$

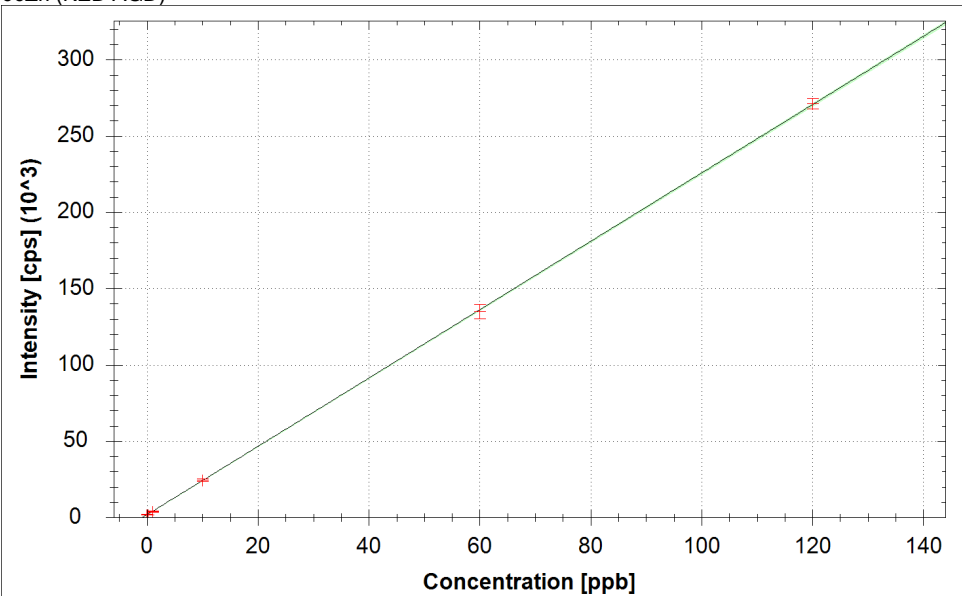
⁶⁵Cu (KED AGD)

$$f(x) = 5107.2650 \cdot x + 1107.9252$$

$$R^2 = 0.9995$$

$$\text{BEC} = 0.217 \text{ ppb}$$

$$\text{LoD} = 0.0171 \text{ ppb}$$

⁶⁶Zn (KED AGD)

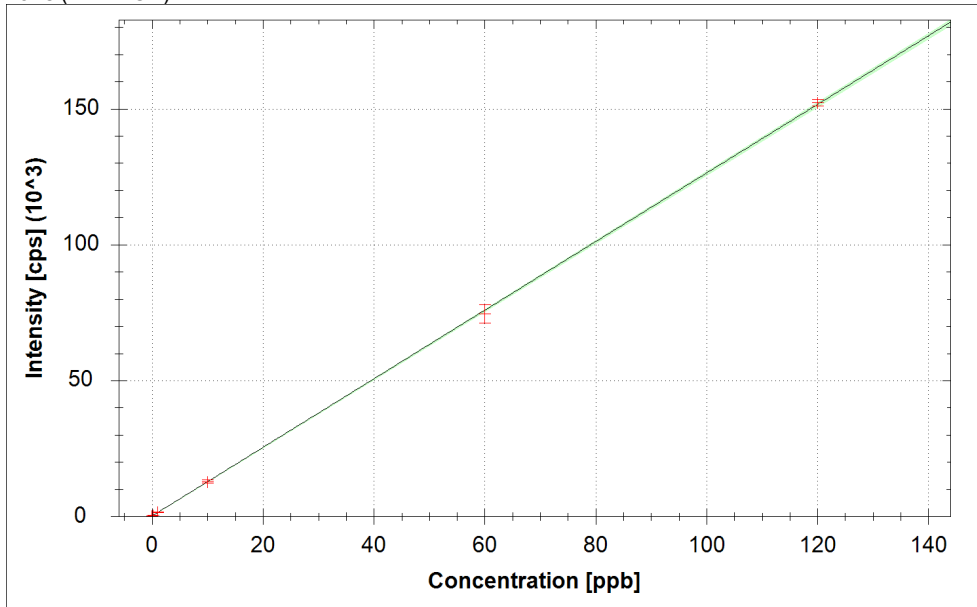
$$f(x) = 2238.9545 \cdot x + 1808.6612$$

$$R^2 = 1.0000$$

$$\text{BEC} = 0.808 \text{ ppb}$$

$$\text{LoD} = 0.2131 \text{ ppb}$$

75As (KED AGD)



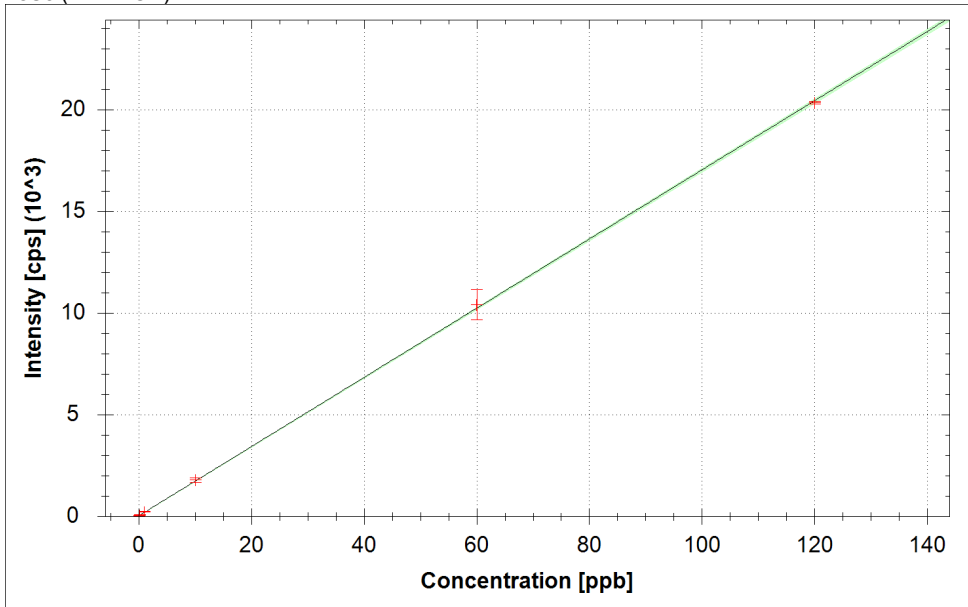
$$f(x) = 1261.4070 \cdot x + 177.2467$$

$$R^2 = 0.9999$$

$$\text{BEC} = 0.141 \text{ ppb}$$

$$\text{LoD} = 0.0391 \text{ ppb}$$

78Se (KED AGD)



$$f(x) = 170.0231 \cdot x + 36.1100$$

$$R^2 = 0.9999$$

$$\text{BEC} = 0.212 \text{ ppb}$$

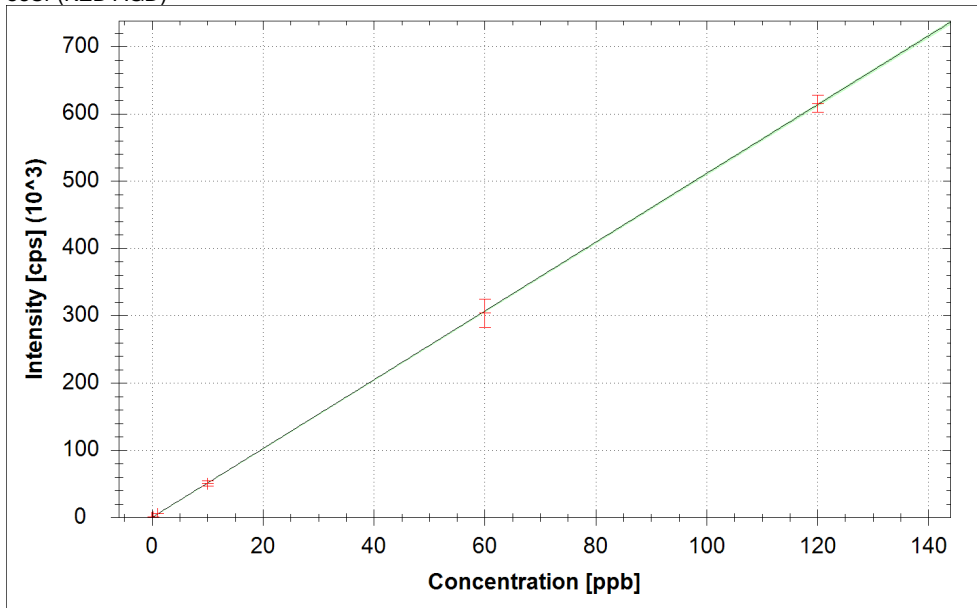
$$\text{LoD} = 0.0987 \text{ ppb}$$

Alpha ICPMSQ Data with SRD

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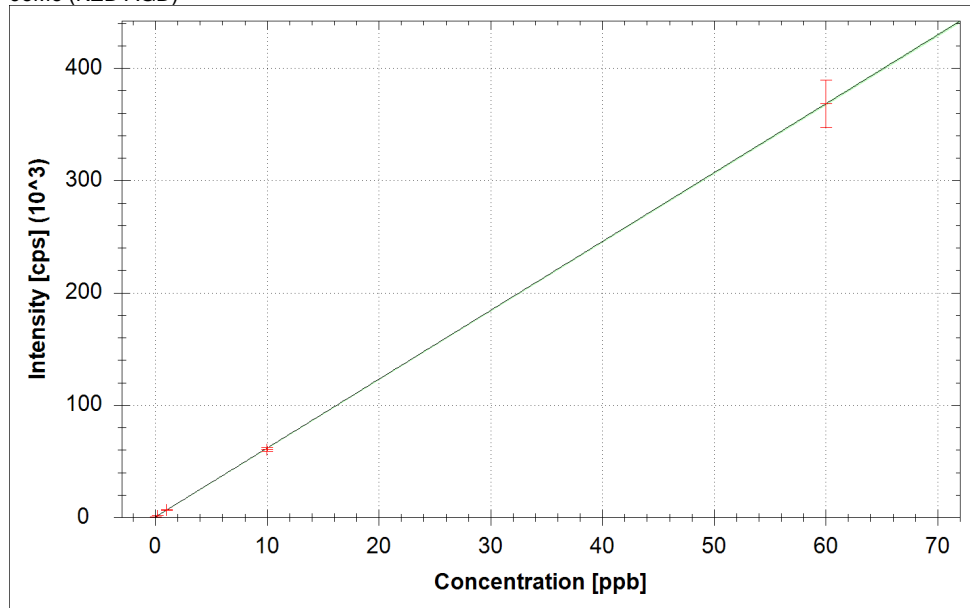


88Sr (KED AGD)



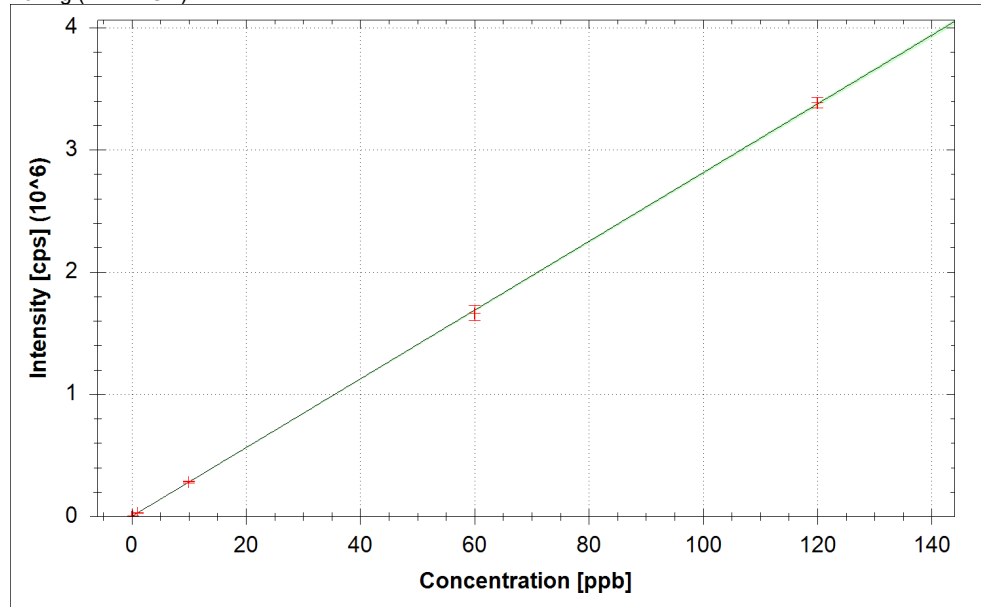
$f(x) = 5111.3942 \cdot x + 80.6056$
 $R^2 = 1.0000$
BEC = 0.016 ppb
LoD = 0.0045 ppb

95Mo (KED AGD)



$f(x) = 6129.6531 \cdot x + 434.6084$
 $R^2 = 1.0000$
BEC = 0.071 ppb
LoD = 0.0464 ppb

107Ag (KED AGD)



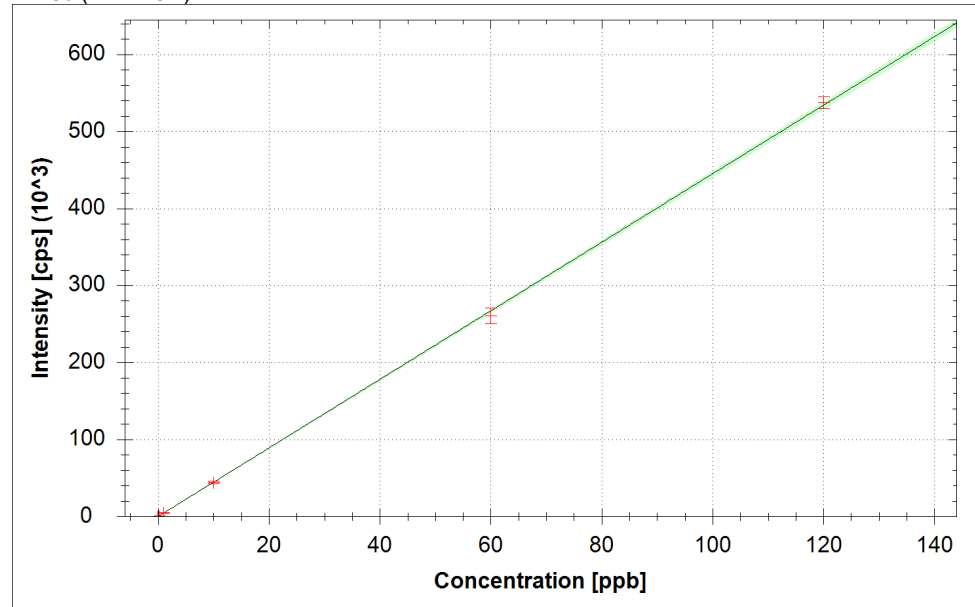
$$f(x) = 28116.6578 \cdot x + 102.4839$$

$$R^2 = 0.9999$$

$$\text{BEC} = 0.004 \text{ ppb}$$

$$\text{LoD} = 0.0009 \text{ ppb}$$

111Cd (KED AGD)



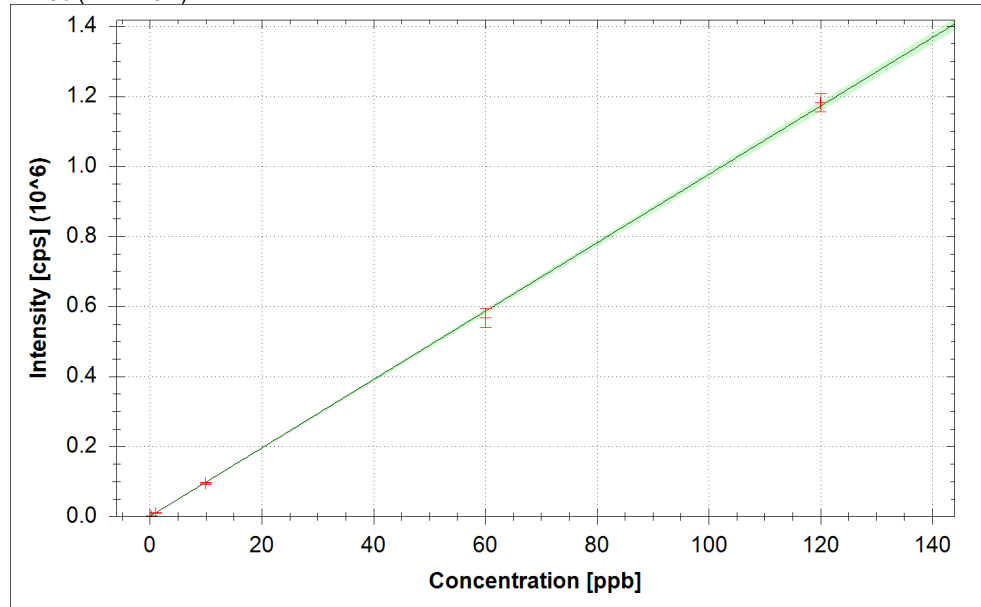
$$f(x) = 4449.3206 \cdot x + 2.7529$$

$$R^2 = 0.9998$$

$$\text{BEC} = 0.001 \text{ ppb}$$

$$\text{LoD} = 0.0017 \text{ ppb}$$

121Sb (KED AGD)



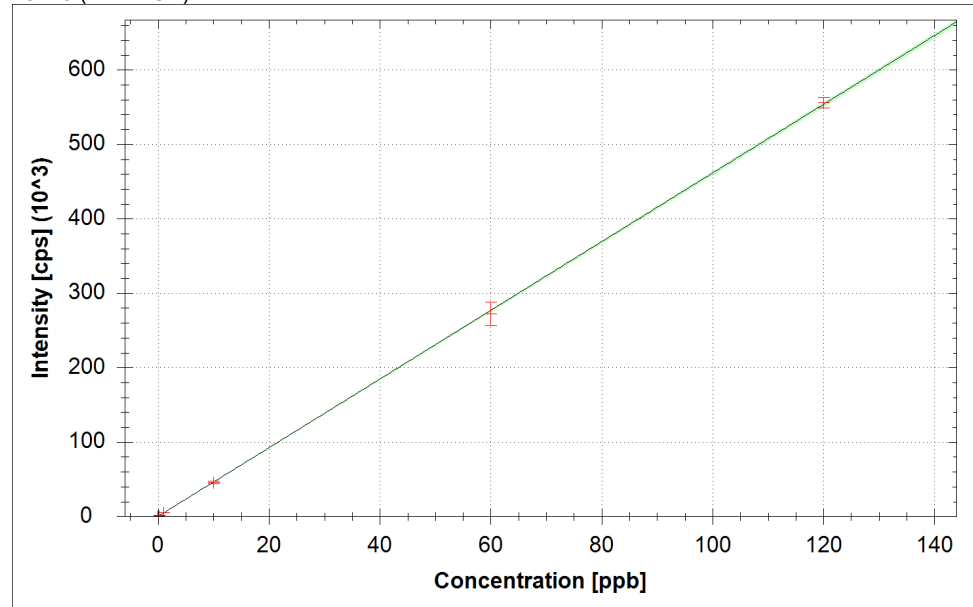
$$f(x) = 9761.8105 \cdot x + 158.4585$$

$$R^2 = 0.9996$$

$$\text{BEC} = 0.016 \text{ ppb}$$

$$\text{LoD} = 0.0087 \text{ ppb}$$

137Ba (KED AGD)



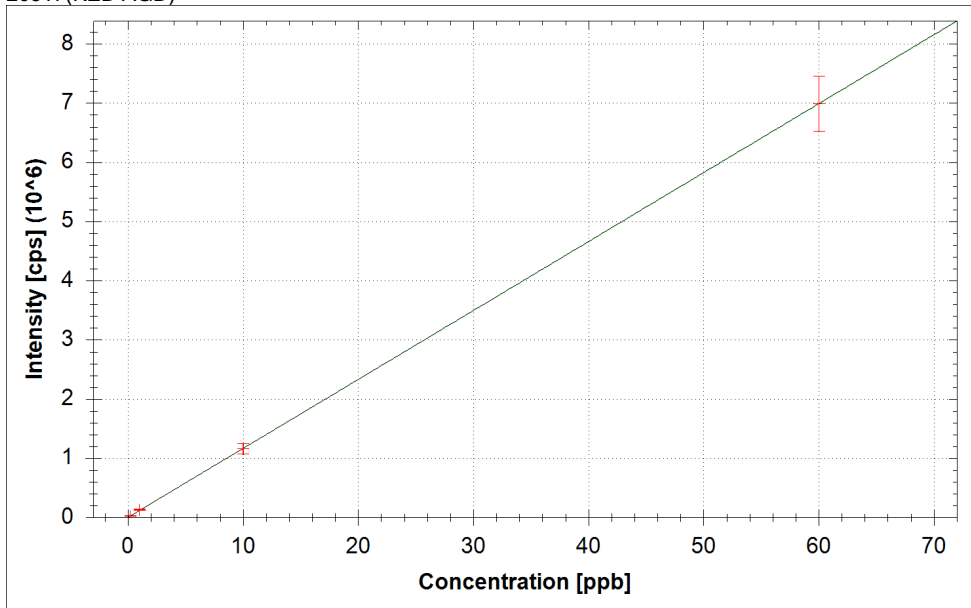
$$f(x) = 4612.6211 \cdot x + 113.4435$$

$$R^2 = 0.9999$$

$$\text{BEC} = 0.025 \text{ ppb}$$

$$\text{LoD} = 0.0259 \text{ ppb}$$

205TI (KED AGD)



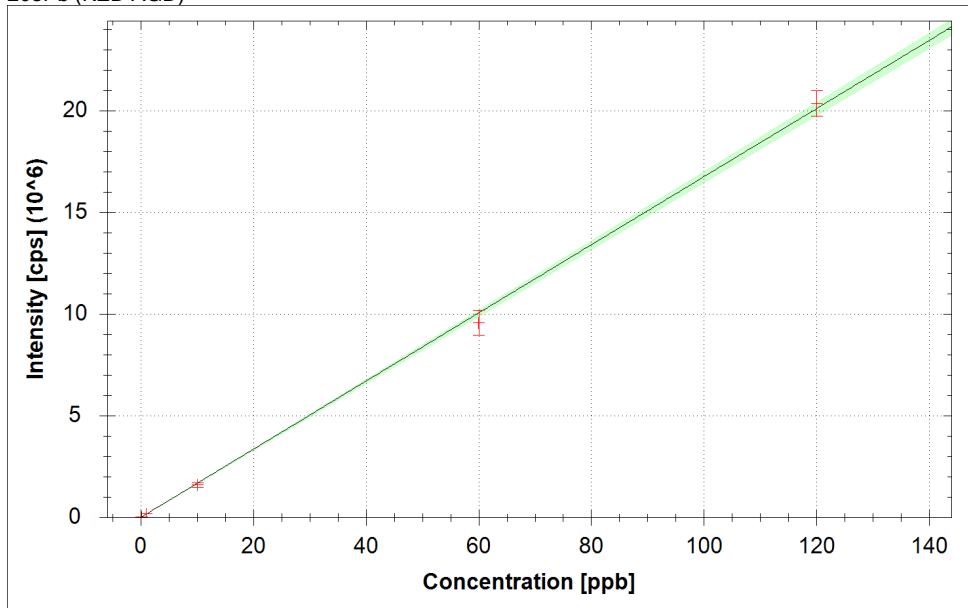
$$f(x) = 116477.5144 \cdot x + 1278.6820$$

$$R^2 = 1.0000$$

$$\text{BEC} = 0.011 \text{ ppb}$$

$$\text{LoD} = 0.0070 \text{ ppb}$$

208Pb (KED AGD)



$$f(x) = 167446.8656 \cdot x + 6890.7154$$

$$R^2 = 0.9991$$

$$\text{BEC} = 0.041 \text{ ppb}$$

$$\text{LoD} = 0.0040 \text{ ppb}$$

Alpha ICPMSQ Data with SRD

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Standards:

Analysis Index: 4
 Analysis Name: 0.2/20 Cal
 Analysis Type: STD
 Analysis Started at: 9/23/2024 1:36:00 PM
 Total Dilution Factor: 50000
 Rack: 0
 Vial: 2

Category	Concentration average	Concentration RSD	Standard Concentration	Standard Relative Difference
6Li (STD AGD)	100.742 %	1.1 %		0.000 %
6Li (KED AGD)	109.682 %	2.0 %		0.000 %
9Be (STD AGD)	0.193 ppb	2.0 %	0.200 ppb	3.604 %
23Na (KED AGD)	15.208 ppb	5.8 %	20.000 ppb	23.959 %
24Mg (KED AGD)	18.569 ppb	3.2 %	20.000 ppb	7.153 %
27Al (KED AGD)	0.310 ppb	28.9 %	0.200 ppb	55.165 %
39K (KED AGD)	13.424 ppb	6.4 %	20.000 ppb	32.882 %
44Ca (KED AGD)	18.227 ppb	1.9 %	20.000 ppb	8.863 %
45Sc (STD AGD)	109.739 %	1.6 %		0.000 %
51V (KED AGD)	0.209 ppb	11.3 %	0.200 ppb	4.418 %
52Cr (KED AGD)	0.219 ppb	4.3 %	0.200 ppb	9.556 %
55Mn (KED AGD)	0.133 ppb	11.8 %	0.200 ppb	33.509 %
57Fe (KED AGD)	18.742 ppb	11.1 %	20.000 ppb	6.290 %
59Co (KED AGD)	0.208 ppb	3.1 %	0.200 ppb	4.112 %
60Ni (KED AGD)	-0.011 ppb	294.6 %	0.200 ppb	105.579 %
65Cu (KED AGD)	0.409 ppb	7.1 %	0.200 ppb	104.553 %
66Zn (KED AGD)	-0.052 ppb	64.6 %	0.200 ppb	125.772 %
74Ge (KED AGD)	104.618 %	2.6 %		0.000 %
75As (KED AGD)	0.176 ppb	12.2 %	0.200 ppb	11.928 %
78Se (KED AGD)	0.192 ppb	10.3 %	0.200 ppb	4.186 %
88Sr (KED AGD)	0.189 ppb	1.4 %	0.200 ppb	5.276 %
95Mo (KED AGD)	0.177 ppb	5.0 %	0.200 ppb	11.382 %
103Rh (KED AGD)	105.863 %	0.5 %		0.000 %
107Ag (KED AGD)	0.189 ppb	0.9 %	0.200 ppb	5.544 %
111Cd (KED AGD)	0.204 ppb	4.5 %	0.200 ppb	1.878 %
115In (KED AGD)	107.190 %	2.8 %		0.000 %
121Sb (KED AGD)	0.205 ppb	2.3 %	0.200 ppb	2.562 %
137Ba (KED AGD)	0.194 ppb	7.0 %	0.200 ppb	3.026 %
159Tb (KED AGD)	106.166 %	0.7 %		0.000 %
175Lu (KED AGD)	105.853 %	2.4 %		0.000 %
205Tl (KED AGD)	0.189 ppb	6.8 %	0.200 ppb	5.541 %
208Pb (KED AGD)	0.185 ppb	3.8 %	0.200 ppb	7.301 %
209Bi (KED AGD)	110.018 %	1.7 %		0.000 %

Alpha ICPMSQ Data with SRD

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Standards:

Analysis Index: 5
 Analysis Name: 1/100 Cal
 Analysis Type: STD
 Analysis Started at: 9/23/2024 1:40:37 PM
 Total Dilution Factor: 10000
 Rack: 0
 Vial: 3

Category	Concentration average	Concentration RSD	Standard Concentration	Standard Relative Difference
6Li (STD AGD)	100.040 %	0.9 %		0.000 %
6Li (KED AGD)	102.176 %	6.8 %		0.000 %
9Be (STD AGD)	1.028 ppb	1.5 %	1.000 ppb	2.817 %
23Na (KED AGD)	107.201 ppb	6.2 %	100.000 ppb	7.201 %
24Mg (KED AGD)	111.505 ppb	4.8 %	100.000 ppb	11.505 %
27Al (KED AGD)	1.385 ppb	9.9 %	1.000 ppb	38.516 %
39K (KED AGD)	106.736 ppb	7.7 %	100.000 ppb	6.736 %
44Ca (KED AGD)	109.331 ppb	4.3 %	100.000 ppb	9.331 %
45Sc (STD AGD)	101.632 %	1.1 %		0.000 %
51V (KED AGD)	1.081 ppb	2.3 %	1.000 ppb	8.059 %
52Cr (KED AGD)	1.087 ppb	5.5 %	1.000 ppb	8.731 %
55Mn (KED AGD)	1.090 ppb	6.7 %	1.000 ppb	9.038 %
57Fe (KED AGD)	109.764 ppb	7.2 %	100.000 ppb	9.764 %
59Co (KED AGD)	1.066 ppb	7.0 %	1.000 ppb	6.603 %
60Ni (KED AGD)	0.738 ppb	10.7 %	1.000 ppb	26.214 %
65Cu (KED AGD)	1.301 ppb	10.9 %	1.000 ppb	30.076 %
66Zn (KED AGD)	0.876 ppb	12.9 %	1.000 ppb	12.409 %
74Ge (KED AGD)	103.021 %	6.9 %		0.000 %
75As (KED AGD)	1.064 ppb	5.6 %	1.000 ppb	6.390 %
78Se (KED AGD)	1.114 ppb	9.4 %	1.000 ppb	11.378 %
88Sr (KED AGD)	1.053 ppb	6.1 %	1.000 ppb	5.296 %
95Mo (KED AGD)	0.999 ppb	8.8 %	1.000 ppb	0.117 %
103Rh (KED AGD)	101.771 %	6.6 %		0.000 %
107Ag (KED AGD)	1.049 ppb	6.3 %	1.000 ppb	4.914 %
111Cd (KED AGD)	1.055 ppb	7.4 %	1.000 ppb	5.457 %
115In (KED AGD)	104.228 %	7.8 %		0.000 %
121Sb (KED AGD)	1.051 ppb	7.2 %	1.000 ppb	5.060 %
137Ba (KED AGD)	1.050 ppb	6.3 %	1.000 ppb	4.995 %
159Tb (KED AGD)	100.475 %	6.5 %		0.000 %
175Lu (KED AGD)	101.799 %	6.6 %		0.000 %
205Tl (KED AGD)	1.093 ppb	7.0 %	1.000 ppb	9.256 %
208Pb (KED AGD)	1.045 ppb	6.7 %	1.000 ppb	4.518 %
209Bi (KED AGD)	100.932 %	6.1 %		0.000 %

Alpha ICPMSQ Data with SRD

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Standards:

Analysis Index: 6
 Analysis Name: 10/1000 Cal
 Analysis Type: STD
 Analysis Started at: 9/23/2024 1:45:15 PM
 Total Dilution Factor: 1000
 Rack: 0
 Vial: 4

Category	Concentration average	Concentration RSD	Standard Concentration	Standard Relative Difference
6Li (STD AGD)	100.261 %	1.3 %		0.000 %
6Li (KED AGD)	110.761 %	2.6 %		0.000 %
9Be (STD AGD)	10.214 ppb	1.0 %	10.000 ppb	2.139 %
23Na (KED AGD)	1,005.799 ppb	5.8 %	1,000.000 ppb	0.580 %
24Mg (KED AGD)	1,014.666 ppb	5.4 %	1,000.000 ppb	1.467 %
27Al (KED AGD)	10.749 ppb	8.8 %	10.000 ppb	7.488 %
39K (KED AGD)	1,037.812 ppb	6.9 %	1,000.000 ppb	3.781 %
44Ca (KED AGD)	1,004.220 ppb	5.6 %	1,000.000 ppb	0.422 %
45Sc (STD AGD)	115.314 %	1.5 %		0.000 %
51V (KED AGD)	9.803 ppb	2.2 %	10.000 ppb	1.966 %
52Cr (KED AGD)	9.855 ppb	4.2 %	10.000 ppb	1.445 %
55Mn (KED AGD)	9.964 ppb	5.8 %	10.000 ppb	0.362 %
57Fe (KED AGD)	968.014 ppb	4.7 %	1,000.000 ppb	3.199 %
59Co (KED AGD)	9.797 ppb	3.3 %	10.000 ppb	2.029 %
60Ni (KED AGD)	9.666 ppb	2.8 %	10.000 ppb	3.339 %
65Cu (KED AGD)	10.151 ppb	2.6 %	10.000 ppb	1.508 %
66Zn (KED AGD)	10.037 ppb	3.9 %	10.000 ppb	0.372 %
74Ge (KED AGD)	107.200 %	2.1 %		0.000 %
75As (KED AGD)	10.016 ppb	5.1 %	10.000 ppb	0.160 %
78Se (KED AGD)	10.299 ppb	6.8 %	10.000 ppb	2.993 %
88Sr (KED AGD)	9.928 ppb	7.7 %	10.000 ppb	0.724 %
95Mo (KED AGD)	9.800 ppb	2.7 %	10.000 ppb	2.000 %
103Rh (KED AGD)	107.440 %	1.8 %		0.000 %
107Ag (KED AGD)	9.979 ppb	3.1 %	10.000 ppb	0.207 %
111Cd (KED AGD)	9.931 ppb	3.3 %	10.000 ppb	0.694 %
115In (KED AGD)	109.290 %	4.6 %		0.000 %
121Sb (KED AGD)	9.634 ppb	3.7 %	10.000 ppb	3.656 %
137Ba (KED AGD)	9.875 ppb	4.1 %	10.000 ppb	1.251 %
159Tb (KED AGD)	106.339 %	2.6 %		0.000 %
175Lu (KED AGD)	107.700 %	2.2 %		0.000 %
205Tl (KED AGD)	9.971 ppb	7.6 %	10.000 ppb	0.286 %
208Pb (KED AGD)	9.445 ppb	7.3 %	10.000 ppb	5.547 %
209Bi (KED AGD)	110.661 %	5.8 %		0.000 %

Alpha ICPMSQ Data with SRD

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Standards:

Analysis Index: 7
Analysis Name: 60/6000 Cal
Analysis Type: STD
Analysis Started at: 9/23/2024 1:49:53 PM
Total Dilution Factor: 166.6666666
Rack: 0
Vial: 5

Category	Concentration average	Concentration RSD	Standard Concentration	Standard Relative Difference
6Li (STD AGD)	97.782 %	1.5 %		0.000 %
6Li (KED AGD)	108.636 %	3.9 %		0.000 %
9Be (STD AGD)	60.248 ppb	0.5 %	60.000 ppb	0.413 %
23Na (KED AGD)	5,820.461 ppb	3.1 %	6,000.000 ppb	2.992 %
24Mg (KED AGD)	5,990.550 ppb	3.9 %	6,000.000 ppb	0.157 %
27Al (KED AGD)	60.445 ppb	6.5 %	60.000 ppb	0.741 %
39K (KED AGD)	6,232.731 ppb	6.8 %	6,000.000 ppb	3.879 %
44Ca (KED AGD)	6,050.965 ppb	5.2 %	6,000.000 ppb	0.849 %
45Sc (STD AGD)	122.926 %	0.7 %		0.000 %
51V (KED AGD)	58.193 ppb	4.3 %	60.000 ppb	3.012 %
52Cr (KED AGD)	58.194 ppb	3.0 %	60.000 ppb	3.010 %
55Mn (KED AGD)	59.427 ppb	5.2 %	60.000 ppb	0.956 %
57Fe (KED AGD)	5,779.987 ppb	3.9 %	6,000.000 ppb	3.667 %
59Co (KED AGD)	57.822 ppb	3.6 %	60.000 ppb	3.630 %
60Ni (KED AGD)	57.889 ppb	4.1 %	60.000 ppb	3.518 %
65Cu (KED AGD)	57.858 ppb	2.9 %	60.000 ppb	3.569 %
66Zn (KED AGD)	59.386 ppb	3.4 %	60.000 ppb	1.024 %
74Ge (KED AGD)	107.093 %	4.5 %		0.000 %
75As (KED AGD)	58.934 ppb	4.6 %	60.000 ppb	1.776 %
78Se (KED AGD)	60.993 ppb	7.1 %	60.000 ppb	1.655 %
88Sr (KED AGD)	59.374 ppb	6.9 %	60.000 ppb	1.044 %
95Mo (KED AGD)	60.033 ppb	5.8 %	60.000 ppb	0.056 %
103Rh (KED AGD)	104.664 %	3.3 %		0.000 %
107Ag (KED AGD)	59.192 ppb	3.8 %	60.000 ppb	1.347 %
111Cd (KED AGD)	58.459 ppb	3.9 %	60.000 ppb	2.568 %
115In (KED AGD)	109.109 %	3.0 %		0.000 %
121Sb (KED AGD)	57.995 ppb	4.7 %	60.000 ppb	3.342 %
137Ba (KED AGD)	59.005 ppb	5.8 %	60.000 ppb	1.658 %
159Tb (KED AGD)	107.065 %	2.5 %		0.000 %
175Lu (KED AGD)	107.777 %	3.1 %		0.000 %
205Tl (KED AGD)	60.003 ppb	6.7 %	60.000 ppb	0.005 %
208Pb (KED AGD)	57.140 ppb	6.3 %	60.000 ppb	4.766 %
209Bi (KED AGD)	108.274 %	6.2 %		0.000 %

Alpha ICPMSQ Data with SRD

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Standards:

Analysis Index: 8
 Analysis Name: 120/12000 Cal
 Analysis Type: STD
 Analysis Started at: 9/23/2024 1:54:33 PM
 Total Dilution Factor: 83.33333333
 Rack: 0
 Vial: 6

Category	Concentration average	Concentration RSD	Standard Concentration	Standard Relative Difference
6Li (STD AGD)	95.516 %	1.4 %		0.000 %
6Li (KED AGD)	98.465 %	2.0 %		0.000 %
9Be (STD AGD)	119.858 ppb	0.8 %	120.000 ppb	0.118 %
23Na (KED AGD)	12,089.234 ppb	2.6 %	12,000.000 ppb	0.744 %
24Mg (KED AGD)	12,003.409 ppb	3.7 %	12,000.000 ppb	0.028 %
27Al (KED AGD)	119.712 ppb	3.9 %	120.000 ppb	0.240 %
39K (KED AGD)	11,880.438 ppb	3.0 %	12,000.000 ppb	0.996 %
44Ca (KED AGD)	11,974.091 ppb	2.8 %	12,000.000 ppb	0.216 %
45Sc (STD AGD)	111.680 %	0.7 %		0.000 %
51V (KED AGD)	120.919 ppb	0.8 %	120.000 ppb	0.766 %
52Cr (KED AGD)	120.914 ppb	1.0 %	120.000 ppb	0.762 %
55Mn (KED AGD)	120.289 ppb	1.2 %	120.000 ppb	0.241 %
57Fe (KED AGD)	12,112.593 ppb	1.1 %	12,000.000 ppb	0.938 %
59Co (KED AGD)	121.105 ppb	1.3 %	120.000 ppb	0.921 %
60Ni (KED AGD)	121.086 ppb	1.2 %	120.000 ppb	0.905 %
65Cu (KED AGD)	121.055 ppb	2.1 %	120.000 ppb	0.879 %
66Zn (KED AGD)	120.305 ppb	1.3 %	120.000 ppb	0.255 %
74Ge (KED AGD)	97.185 %	2.7 %		0.000 %
75As (KED AGD)	120.531 ppb	0.8 %	120.000 ppb	0.443 %
78Se (KED AGD)	119.478 ppb	0.3 %	120.000 ppb	0.435 %
88Sr (KED AGD)	120.319 ppb	2.1 %	120.000 ppb	0.266 %
95Mo (KED AGD)	132.129 ppb	1.0 %	120.000 ppb	10.108 %
103Rh (KED AGD)	95.806 %	0.6 %		0.000 %
107Ag (KED AGD)	120.405 ppb	1.3 %	120.000 ppb	0.338 %
111Cd (KED AGD)	120.776 ppb	1.4 %	120.000 ppb	0.647 %
115In (KED AGD)	96.991 %	4.9 %		0.000 %
121Sb (KED AGD)	121.032 ppb	2.2 %	120.000 ppb	0.860 %
137Ba (KED AGD)	120.507 ppb	1.3 %	120.000 ppb	0.423 %
159Tb (KED AGD)	99.528 %	1.8 %		0.000 %
175Lu (KED AGD)	99.039 %	2.3 %		0.000 %
205Tl (KED AGD)	129.591 ppb	3.2 %	120.000 ppb	7.993 %
208Pb (KED AGD)	121.476 ppb	3.1 %	120.000 ppb	1.230 %
209Bi (KED AGD)	96.489 %	2.1 %		0.000 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 1 User name ALPHALAB\Metals-Instrument Comment <Comment>
 Analysis label: Rinse Rack 0
 Analysis started at: 9/23/2024 1:22:06 PM Vial 1

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	101.751 %	94.805 %	0.083 ppb	-0.025 ppb	-1.509 ppb	-0.108 ppb	-1.476 ppb	0.299 ppb	99.485 %
Concentration per Run 1	100.177 %	88.294 %	0.086 ppb	2.237 ppb	-1.055 ppb	0.139 ppb	1.710 ppb	1.793 ppb	98.054 %
Concentration per Run 2	102.376 %	93.911 %	0.071 ppb	-0.183 ppb	-1.555 ppb	-0.182 ppb	-2.510 ppb	-1.345 ppb	99.154 %
Concentration per Run 3	102.699 %	102.210 %	0.091 ppb	-2.130 ppb	-1.918 ppb	-0.281 ppb	-3.629 ppb	0.450 ppb	101.248 %
Concentration RSD	1.3 %	7.4 %	12.3 %	8,683.4 %	28.7 %	203.0 %	190.7 %	525.8 %	1.6 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.005 ppb	-0.004 ppb	0.069 ppb	1.629 ppb	0.038 ppb	0.677 ppb	0.357 ppb	0.766 ppb	96.472 %
Concentration per Run 1	-0.017 ppb	-0.007 ppb	0.086 ppb	1.158 ppb	0.062 ppb	0.805 ppb	0.467 ppb	1.373 ppb	89.518 %
Concentration per Run 2	0.024 ppb	0.001 ppb	0.073 ppb	2.005 ppb	0.036 ppb	0.678 ppb	0.313 ppb	0.679 ppb	98.598 %
Concentration per Run 3	0.009 ppb	-0.006 ppb	0.049 ppb	1.724 ppb	0.017 ppb	0.547 ppb	0.292 ppb	0.245 ppb	101.300 %
Concentration RSD	373.7 %	108.1 %	26.7 %	26.5 %	60.2 %	19.1 %	26.7 %	74.3 %	6.4 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.013 ppb	0.000 ppb	0.018 ppb	0.052 ppb	96.009 %	0.020 ppb	0.000 ppb	97.635 %	0.006 ppb
Concentration per Run 1	0.015 ppb	0.020 ppb	0.032 ppb	0.046 ppb	87.511 %	0.029 ppb	0.000 ppb	90.147 %	0.003 ppb
Concentration per Run 2	0.015 ppb	-0.016 ppb	0.016 ppb	0.036 ppb	98.772 %	0.018 ppb	0.000 ppb	99.762 %	0.007 ppb
Concentration per Run 3	0.010 ppb	-0.003 ppb	0.007 ppb	0.074 ppb	101.743 %	0.012 ppb	-0.001 ppb	102.997 %	0.007 ppb
Concentration RSD	21.6 %	4,961.4 %	70.6 %	37.4 %	7.8 %	43.6 %	617.2 %	6.8 %	36.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.025 ppb	94.823 %	95.952 %	0.022 ppb	0.054 ppb	95.906 %
Concentration per Run 1	0.042 ppb	87.463 %	88.148 %	0.027 ppb	0.083 ppb	90.951 %
Concentration per Run 2	0.016 ppb	96.979 %	98.422 %	0.021 ppb	0.050 ppb	95.462 %
Concentration per Run 3	0.016 ppb	100.026 %	101.285 %	0.018 ppb	0.028 ppb	101.306 %
Concentration RSD	61.5 %	6.9 %	7.2 %	21.5 %	51.5 %	5.4 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 2 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: CAL LOT #M24-1045 Rack: 0
 Analysis started at: 9/23/2024 1:26:42 PM Vial: 1

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	101.253 %	100.945 %	0.056 ppb	-1.662 ppb	-2.140 ppb	-0.357 ppb	-1.824 ppb	-1.516 ppb	100.500 %
Concentration per Run 1	99.548 %	96.441 %	0.050 ppb	-0.677 ppb	-1.928 ppb	-0.275 ppb	0.166 ppb	-1.206 ppb	99.022 %
Concentration per Run 2	101.058 %	102.614 %	0.058 ppb	-1.973 ppb	-2.187 ppb	-0.349 ppb	-2.247 ppb	-1.966 ppb	101.254 %
Concentration per Run 3	103.153 %	103.778 %	0.059 ppb	-2.336 ppb	-2.305 ppb	-0.449 ppb	-3.391 ppb	-1.375 ppb	101.225 %
Concentration RSD	1.8 %	3.9 %	8.3 %	52.5 %	9.0 %	24.3 %	99.6 %	26.4 %	1.3 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	-0.005 ppb	-0.011 ppb	0.024 ppb	0.105 ppb	0.012 ppb	-0.182 ppb	0.012 ppb	-0.167 ppb	100.483 %
Concentration per Run 1	-0.022 ppb	-0.008 ppb	0.033 ppb	0.022 ppb	0.016 ppb	-0.163 ppb	0.029 ppb	-0.094 ppb	95.609 %
Concentration per Run 2	0.008 ppb	-0.009 ppb	0.019 ppb	0.315 ppb	0.009 ppb	-0.214 ppb	0.005 ppb	-0.220 ppb	102.917 %
Concentration per Run 3	-0.002 ppb	-0.014 ppb	0.021 ppb	-0.022 ppb	0.010 ppb	-0.170 ppb	0.004 ppb	-0.188 ppb	102.925 %
Concentration RSD	286.0 %	31.3 %	31.3 %	174.8 %	31.3 %	15.2 %	113.1 %	39.0 %	4.2 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.001 ppb	-0.008 ppb	0.001 ppb	0.019 ppb	99.808 %	0.008 ppb	0.000 ppb	100.920 %	0.002 ppb
Concentration per Run 1	-0.003 ppb	-0.024 ppb	0.002 ppb	-0.003 ppb	93.335 %	0.008 ppb	0.001 ppb	96.051 %	-0.002 ppb
Concentration per Run 2	-0.001 ppb	-0.028 ppb	0.001 ppb	0.024 ppb	102.936 %	0.007 ppb	0.000 ppb	103.696 %	0.001 ppb
Concentration per Run 3	0.006 ppb	0.028 ppb	0.001 ppb	0.036 ppb	103.152 %	0.009 ppb	0.000 ppb	103.014 %	0.007 ppb
Concentration RSD	814.0 %	376.7 %	50.0 %	102.9 %	5.6 %	7.5 %	219.2 %	4.2 %	237.5 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.009 ppb	99.066 %	99.346 %	0.009 ppb	0.011 ppb	100.215 %
Concentration per Run 1	0.011 ppb	93.706 %	93.955 %	0.004 ppb	0.013 ppb	97.638 %
Concentration per Run 2	0.009 ppb	102.215 %	101.891 %	0.011 ppb	0.010 ppb	100.792 %
Concentration per Run 3	0.006 ppb	101.278 %	102.194 %	0.011 ppb	0.009 ppb	102.216 %
Concentration RSD	31.1 %	4.7 %	4.7 %	45.4 %	23.6 %	2.3 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 3 User name ALPHALAB\Metals-Instrument
 Analysis label: Blank NTB ICPMSQ Rack 4
 Analysis started at: 9/23/2024 1:31:18 PM Vial 49

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	100.000 %	100.000 %	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	100.000 %
Concentration per Run	100.000 %	100.000 %	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	100.000 %
Concentration RSD	0.0 %	0.1 %	0.2 %	0.1 %	0.2 %	0.2 %	0.0 %	0.3 %	0.0 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	100.000 %
Concentration per Run	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	100.000 %
Concentration RSD	0.1 %	0.2 %	0.1 %	0.1 %	0.4 %	0.1 %	0.0 %	0.1 %	0.1 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	100.000 %	0.000 ppb	0.000 ppb	100.000 %	0.000 ppb
Concentration per Run	0.000 ppb	0.000 ppb	0.000 ppb	0.000 ppb	100.000 %	0.000 ppb	0.000 ppb	100.000 %	0.000 ppb
Concentration RSD	0.1 %	0.2 %	0.1 %	0.2 %	0.1 %	0.1 %	0.9 %	0.0 %	0.2 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.000 ppb	100.000 %	100.000 %	0.000 ppb	0.000 ppb	100.000 %
Concentration per Run	0.000 ppb	100.000 %	100.000 %	0.000 ppb	0.000 ppb	100.000 %
Concentration RSD	0.4 %	0.1 %	0.1 %	0.2 %	0.0 %	0.0 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 4 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: 0.2/20 Cal Rack: 0
 Analysis started at: 9/23/2024 1:36:00 PM Vial: 2

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	100.742 %	109.682 %	0.193 ppb	15.208 ppb	18.569 ppb	0.310 ppb	13.424 ppb	18.227 ppb	109.739 %
Concentration per Run 1	99.526 %	108.535 %	0.189 ppb	15.261 ppb	17.888 ppb	0.287 ppb	14.019 ppb	18.348 ppb	107.752 %
Concentration per Run 2	100.940 %	108.332 %	0.197 ppb	14.297 ppb	18.817 ppb	0.234 ppb	12.435 ppb	17.841 ppb	110.636 %
Concentration per Run 3	101.760 %	112.178 %	0.193 ppb	16.067 ppb	19.003 ppb	0.409 ppb	13.817 ppb	18.493 ppb	110.829 %
Concentration RSD	1.1 %	2.0 %	2.0 %	5.8 %	3.2 %	28.9 %	6.4 %	1.9 %	1.6 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.209 ppb	0.219 ppb	0.133 ppb	18.742 ppb	0.208 ppb	-0.011 ppb	0.409 ppb	-0.052 ppb	104.618 %
Concentration per Run 1	0.211 ppb	0.216 ppb	0.131 ppb	18.863 ppb	0.213 ppb	-0.047 ppb	0.424 ppb	-0.024 ppb	102.191 %
Concentration per Run 2	0.231 ppb	0.230 ppb	0.118 ppb	20.755 ppb	0.211 ppb	0.018 ppb	0.376 ppb	-0.088 ppb	104.066 %
Concentration per Run 3	0.184 ppb	0.212 ppb	0.149 ppb	16.608 ppb	0.201 ppb	-0.004 ppb	0.427 ppb	-0.042 ppb	107.597 %
Concentration RSD	11.3 %	4.3 %	11.8 %	11.1 %	3.1 %	294.6 %	7.1 %	64.6 %	2.6 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.176 ppb	0.192 ppb	0.189 ppb	0.177 ppb	105.863 %	0.189 ppb	0.204 ppb	107.190 %	0.205 ppb
Concentration per Run 1	0.178 ppb	0.213 ppb	0.187 ppb	0.185 ppb	105.695 %	0.188 ppb	0.193 ppb	106.688 %	0.203 ppb
Concentration per Run 2	0.154 ppb	0.174 ppb	0.190 ppb	0.180 ppb	105.410 %	0.188 ppb	0.210 ppb	104.449 %	0.202 ppb
Concentration per Run 3	0.197 ppb	0.188 ppb	0.192 ppb	0.167 ppb	106.484 %	0.191 ppb	0.208 ppb	110.433 %	0.211 ppb
Concentration RSD	12.2 %	10.3 %	1.4 %	5.0 %	0.5 %	0.9 %	4.5 %	2.8 %	2.3 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.194 ppb	106.166 %	105.853 %	0.189 ppb	0.185 ppb	110.018 %
Concentration per Run 1	0.208 ppb	106.191 %	105.705 %	0.175 ppb	0.179 ppb	112.039 %
Concentration per Run 2	0.181 ppb	105.396 %	103.349 %	0.190 ppb	0.185 ppb	109.801 %
Concentration per Run 3	0.192 ppb	106.909 %	108.506 %	0.201 ppb	0.193 ppb	108.214 %
Concentration RSD	7.0 %	0.7 %	2.4 %	6.8 %	3.8 %	1.7 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 5 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: 1/100 Cal Rack: 0
 Analysis started at: 9/23/2024 1:40:37 PM Vial: 3

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	100.040 %	102.176 %	1.028 ppb	107.201 ppb	111.505 ppb	1.385 ppb	106.736 ppb	109.331 ppb	101.632 %
Concentration per Run 1	98.999 %	94.417 %	1.019 ppb	114.707 ppb	117.625 ppb	1.338 ppb	113.253 ppb	114.263 ppb	100.345 %
Concentration per Run 2	100.485 %	104.385 %	1.019 ppb	102.139 ppb	108.436 ppb	1.278 ppb	97.509 ppb	104.971 ppb	102.256 %
Concentration per Run 3	100.636 %	107.725 %	1.046 ppb	104.757 ppb	108.454 ppb	1.539 ppb	109.447 ppb	108.758 ppb	102.296 %
Concentration RSD	0.9 %	6.8 %	1.5 %	6.2 %	4.8 %	9.9 %	7.7 %	4.3 %	1.1 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	1.081 ppb	1.087 ppb	1.090 ppb	109.764 ppb	1.066 ppb	0.738 ppb	1.301 ppb	0.876 ppb	103.021 %
Concentration per Run 1	1.109 ppb	1.155 ppb	1.174 ppb	118.866 ppb	1.152 ppb	0.812 ppb	1.465 ppb	1.006 ppb	95.488 %
Concentration per Run 2	1.066 ppb	1.044 ppb	1.036 ppb	105.409 ppb	1.022 ppb	0.655 ppb	1.221 ppb	0.808 ppb	103.879 %
Concentration per Run 3	1.067 ppb	1.062 ppb	1.061 ppb	105.016 ppb	1.024 ppb	0.746 ppb	1.216 ppb	0.814 ppb	109.695 %
Concentration RSD	2.3 %	5.5 %	6.7 %	7.2 %	7.0 %	10.7 %	10.9 %	12.9 %	6.9 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	1.064 ppb	1.114 ppb	1.053 ppb	0.999 ppb	101.771 %	1.049 ppb	1.055 ppb	104.228 %	1.051 ppb
Concentration per Run 1	1.130 ppb	1.142 ppb	1.117 ppb	1.094 ppb	94.095 %	1.124 ppb	1.145 ppb	95.537 %	1.137 ppb
Concentration per Run 2	1.014 ppb	0.998 ppb	0.988 ppb	0.920 ppb	104.847 %	1.021 ppb	1.014 ppb	105.537 %	0.995 ppb
Concentration per Run 3	1.048 ppb	1.201 ppb	1.054 ppb	0.982 ppb	106.370 %	1.002 ppb	1.005 ppb	111.611 %	1.019 ppb
Concentration RSD	5.6 %	9.4 %	6.1 %	8.8 %	6.6 %	6.3 %	7.4 %	7.8 %	7.2 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	1.050 ppb	100.475 %	101.799 %	1.093 ppb	1.045 ppb	100.932 %
Concentration per Run 1	1.124 ppb	92.930 %	94.167 %	1.179 ppb	1.122 ppb	94.049 %
Concentration per Run 2	0.997 ppb	103.840 %	104.154 %	1.063 ppb	1.028 ppb	102.681 %
Concentration per Run 3	1.028 ppb	104.656 %	107.075 %	1.036 ppb	0.986 ppb	106.067 %
Concentration RSD	6.3 %	6.5 %	6.6 %	7.0 %	6.7 %	6.1 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 6 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: 10/1000 Cal Rack: 0
 Analysis started at: 9/23/2024 1:45:15 PM Vial: 4

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	100.261 %	110.761 %	10.214 ppb	1,005.799 ppb	1,014.666 ppb	10.749 ppb	1,037.812 ppb	1,004.220 ppb	115.314 %
Concentration per Run 1	98.819 %	111.773 %	10.231 ppb	952.748 ppb	957.805 ppb	9.885 ppb	966.083 ppb	946.564 ppb	113.327 %
Concentration per Run 2	101.320 %	107.523 %	10.307 ppb	995.981 ppb	1,018.848 ppb	10.594 ppb	1,037.326 ppb	1,006.304 ppb	116.665 %
Concentration per Run 3	100.644 %	112.988 %	10.104 ppb	1,068.668 ppb	1,067.345 ppb	11.767 ppb	1,110.027 ppb	1,059.794 ppb	115.950 %
Concentration RSD	1.3 %	2.6 %	1.0 %	5.8 %	5.4 %	8.8 %	6.9 %	5.6 %	1.5 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	9.803 ppb	9.855 ppb	9.964 ppb	968.014 ppb	9.797 ppb	9.666 ppb	10.151 ppb	10.037 ppb	107.200 %
Concentration per Run 1	9.551 ppb	9.385 ppb	9.309 ppb	915.840 ppb	9.422 ppb	9.416 ppb	9.853 ppb	9.588 ppb	107.877 %
Concentration per Run 2	9.941 ppb	10.006 ppb	10.178 ppb	986.184 ppb	10.003 ppb	9.951 ppb	10.353 ppb	10.284 ppb	104.654 %
Concentration per Run 3	9.918 ppb	10.175 ppb	10.405 ppb	1,002.017 ppb	9.967 ppb	9.631 ppb	10.247 ppb	10.240 ppb	109.069 %
Concentration RSD	2.2 %	4.2 %	5.8 %	4.7 %	3.3 %	2.8 %	2.6 %	3.9 %	2.1 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	10.016 ppb	10.299 ppb	9.928 ppb	9.800 ppb	107.440 %	9.979 ppb	9.931 ppb	109.290 %	9.634 ppb
Concentration per Run 1	9.473 ppb	9.687 ppb	9.213 ppb	9.501 ppb	109.594 %	9.627 ppb	9.552 ppb	108.611 %	9.244 ppb
Concentration per Run 2	10.097 ppb	10.147 ppb	9.830 ppb	9.996 ppb	105.936 %	10.183 ppb	10.169 ppb	104.609 %	9.945 ppb
Concentration per Run 3	10.477 ppb	11.063 ppb	10.740 ppb	9.903 ppb	106.790 %	10.127 ppb	10.071 ppb	114.649 %	9.714 ppb
Concentration RSD	5.1 %	6.8 %	7.7 %	2.7 %	1.8 %	3.1 %	3.3 %	4.6 %	3.7 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	9.875 ppb	106.339 %	107.700 %	9.971 ppb	9.445 ppb	110.661 %
Concentration per Run 1	9.410 ppb	108.793 %	110.098 %	9.101 ppb	8.660 ppb	118.042 %
Concentration per Run 2	10.096 ppb	103.358 %	105.453 %	10.287 ppb	9.711 ppb	107.474 %
Concentration per Run 3	10.119 ppb	106.867 %	107.549 %	10.526 ppb	9.964 ppb	106.466 %
Concentration RSD	4.1 %	2.6 %	2.2 %	7.6 %	7.3 %	5.8 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 7 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: 60/6000 Cal Rack: 0
 Analysis started at: 9/23/2024 1:49:53 PM Vial: 5

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	97.782 %	108.636 %	60.248 ppb	5,820.461 ppb	5,990.550 ppb	60.445 ppb	6,232.731 ppb	6,050.965 ppb	122.926 %
Concentration per Run 1	96.113 %	105.752 %	60.561 ppb	5,879.987 ppb	6,094.690 ppb	60.016 ppb	6,191.061 ppb	6,062.126 ppb	122.175 %
Concentration per Run 2	99.041 %	106.612 %	60.082 ppb	5,619.658 ppb	5,720.860 ppb	56.768 ppb	5,828.418 ppb	5,730.510 ppb	122.814 %
Concentration per Run 3	98.191 %	113.544 %	60.101 ppb	5,961.738 ppb	6,156.101 ppb	64.550 ppb	6,678.714 ppb	6,360.258 ppb	123.790 %
Concentration RSD	1.5 %	3.9 %	0.5 %	3.1 %	3.9 %	6.5 %	6.8 %	5.2 %	0.7 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	58.193 ppb	58.194 ppb	59.427 ppb	5,779.987 ppb	57.822 ppb	57.889 ppb	57.858 ppb	59.386 ppb	107.093 %
Concentration per Run 1	59.502 ppb	59.438 ppb	59.136 ppb	5,947.764 ppb	60.002 ppb	60.598 ppb	59.772 ppb	60.689 ppb	101.570 %
Concentration per Run 2	55.297 ppb	56.228 ppb	56.487 ppb	5,521.601 ppb	55.875 ppb	56.249 ppb	57.076 ppb	57.024 ppb	109.065 %
Concentration per Run 3	59.780 ppb	58.916 ppb	62.656 ppb	5,870.598 ppb	57.589 ppb	56.820 ppb	56.727 ppb	60.444 ppb	110.645 %
Concentration RSD	4.3 %	3.0 %	5.2 %	3.9 %	3.6 %	4.1 %	2.9 %	3.4 %	4.5 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	58.934 ppb	60.993 ppb	59.374 ppb	60.033 ppb	104.664 %	59.192 ppb	58.459 ppb	109.109 %	57.995 ppb
Concentration per Run 1	60.172 ppb	60.689 ppb	59.393 ppb	62.511 ppb	102.382 %	60.278 ppb	59.155 ppb	105.295 %	59.065 ppb
Concentration per Run 2	55.852 ppb	56.807 ppb	55.281 ppb	56.083 ppb	108.696 %	56.587 ppb	55.924 ppb	111.011 %	54.908 ppb
Concentration per Run 3	60.778 ppb	65.483 ppb	63.446 ppb	61.506 ppb	102.915 %	60.711 ppb	60.298 ppb	111.022 %	60.012 ppb
Concentration RSD	4.6 %	7.1 %	6.9 %	5.8 %	3.3 %	3.8 %	3.9 %	3.0 %	4.7 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	59.005 ppb	107.065 %	107.777 %	60.003 ppb	57.140 ppb	108.274 %
Concentration per Run 1	58.845 ppb	104.991 %	103.996 %	62.060 ppb	59.212 ppb	103.082 %
Concentration per Run 2	55.687 ppb	110.091 %	110.269 %	55.375 ppb	52.959 ppb	115.889 %
Concentration per Run 3	62.484 ppb	106.113 %	109.068 %	62.575 ppb	59.250 ppb	105.849 %
Concentration RSD	5.8 %	2.5 %	3.1 %	6.7 %	6.3 %	6.2 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 8 User name ALPHALAB\Metals-Instrument Comment <Comment>
 Analysis label: 120/12000 Cal Rack 0
 Analysis started at: 9/23/2024 1:54:33 PM Vial 6

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	95.516 %	98.465 %	119.858 ppb	12,089.234 ppb	12,003.409 ppb	119.712 ppb	11,880.438 ppb	11,974.091 ppb	111.680 %
Concentration per Run 1	94.048 %	100.034 %	120.842 ppb	12,075.630 ppb	12,201.733 ppb	120.089 ppb	12,151.424 ppb	12,175.853 ppb	110.832 %
Concentration per Run 2	95.754 %	99.123 %	119.762 ppb	11,782.719 ppb	11,499.279 ppb	114.894 ppb	11,478.929 ppb	11,586.768 ppb	112.270 %
Concentration per Run 3	96.747 %	96.239 %	118.970 ppb	12,409.353 ppb	12,309.215 ppb	124.153 ppb	12,010.962 ppb	12,159.653 ppb	111.938 %
Concentration RSD	1.4 %	2.0 %	0.8 %	2.6 %	3.7 %	3.9 %	3.0 %	2.8 %	0.7 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	120.919 ppb	120.914 ppb	120.289 ppb	12,112.593 ppb	121.105 ppb	121.086 ppb	121.055 ppb	120.305 ppb	97.185 %
Concentration per Run 1	121.254 ppb	120.995 ppb	121.099 ppb	11,980.464 ppb	119.608 ppb	120.450 ppb	119.064 ppb	119.657 ppb	97.631 %
Concentration per Run 2	119.845 ppb	119.673 ppb	118.612 ppb	12,115.627 ppb	122.787 ppb	122.765 ppb	123.881 ppb	122.121 ppb	94.318 %
Concentration per Run 3	121.659 ppb	122.075 ppb	121.156 ppb	12,241.687 ppb	120.921 ppb	120.043 ppb	120.221 ppb	119.138 ppb	99.605 %
Concentration RSD	0.8 %	1.0 %	1.2 %	1.1 %	1.3 %	1.2 %	2.1 %	1.3 %	2.7 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	120.531 ppb	119.478 ppb	120.319 ppb	129.591 ppb	95.806 %	120.405 ppb	120.776 ppb	96.991 %	121.032 ppb
Concentration per Run 1	121.196 ppb	119.842 ppb	121.799 ppb	130.647 ppb	95.911 %	118.840 ppb	119.439 ppb	98.382 %	119.101 ppb
Concentration per Run 2	120.958 ppb	119.536 ppb	117.458 ppb	132.538 ppb	95.214 %	122.013 ppb	122.728 ppb	91.660 %	124.070 ppb
Concentration per Run 3	119.440 ppb	119.055 ppb	121.700 ppb	133.203 ppb	96.293 %	120.363 ppb	120.161 ppb	100.932 %	119.926 ppb
Concentration RSD	0.8 %	0.3 %	2.1 %	1.1 %	0.6 %	1.3 %	1.4 %	4.9 %	2.2 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	120.507 ppb	99.528 %	99.039 %	129.591 ppb	121.476 ppb	96.489 %
Concentration per Run 1	119.783 ppb	99.429 %	98.419 %	124.888 ppb	117.154 ppb	98.502 %
Concentration per Run 2	122.283 ppb	97.743 %	97.148 %	132.445 ppb	124.183 ppb	94.480 %
Concentration per Run 3	119.456 ppb	101.413 %	101.550 %	131.441 ppb	123.091 ppb	96.485 %
Concentration RSD	1.3 %	1.8 %	2.3 %	3.2 %	3.1 %	2.1 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 9 User name: ALPHALAB\Metals-Instrument Comment: Sr Interference Check
 Analysis label: Sr 200ppb Rack: 4
 Analysis started at: 9/23/2024 1:59:42 PM Vial: 55

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	97.802 %	98.651 %	0.011 ppb	7.510 ppb	23.802 ppb	1.319 ppb	0.182 ppb	8.946 ppb	99.719 %
Concentration per Run 1	96.120 %	91.735 %	0.005 ppb	9.826 ppb	24.740 ppb	1.450 ppb	0.550 ppb	32.522 ppb	98.783 %
Concentration per Run 2	98.083 %	103.576 %	0.013 ppb	5.107 ppb	23.147 ppb	1.104 ppb	-1.356 ppb	-21.971 ppb	99.585 %
Concentration per Run 3	99.204 %	100.641 %	0.015 ppb	7.598 ppb	23.518 ppb	1.402 ppb	1.351 ppb	16.288 ppb	100.788 %
Concentration RSD	1.6 %	6.3 %	47.4 %	31.4 %	3.5 %	14.2 %	765.4 %	312.7 %	1.0 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.009 ppb	0.047 ppb	0.155 ppb	23.926 ppb	0.008 ppb	-0.021 ppb	0.042 ppb	5.467 ppb	96.982 %
Concentration per Run 1	-0.010 ppb	0.050 ppb	0.174 ppb	23.693 ppb	0.007 ppb	0.026 ppb	0.080 ppb	6.032 ppb	86.746 %
Concentration per Run 2	0.015 ppb	0.038 ppb	0.116 ppb	23.389 ppb	0.006 ppb	-0.060 ppb	0.014 ppb	5.202 ppb	101.545 %
Concentration per Run 3	0.022 ppb	0.052 ppb	0.175 ppb	24.695 ppb	0.011 ppb	-0.029 ppb	0.030 ppb	5.166 ppb	102.654 %
Concentration RSD	192.3 %	16.6 %	21.7 %	2.9 %	37.6 %	208.5 %	83.3 %	9.0 %	9.2 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.066 ppb	0.262 ppb	193.373 ppb	2.639 ppb	99.350 %	0.009 ppb	0.008 ppb	98.074 %	0.176 ppb
Concentration per Run 1	0.059 ppb	0.255 ppb	203.471 ppb	2.129 ppb	91.606 %	0.010 ppb	0.010 ppb	87.111 %	0.115 ppb
Concentration per Run 2	0.076 ppb	0.254 ppb	187.365 ppb	2.580 ppb	102.621 %	0.008 ppb	0.007 ppb	102.986 %	0.174 ppb
Concentration per Run 3	0.064 ppb	0.276 ppb	189.282 ppb	3.208 ppb	103.824 %	0.009 ppb	0.007 ppb	104.124 %	0.239 ppb
Concentration RSD	13.5 %	4.9 %	4.5 %	20.5 %	6.8 %	11.4 %	20.3 %	9.7 %	35.3 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.240 ppb	97.790 %	98.483 %	0.432 ppb	0.053 ppb	99.624 %
Concentration per Run 1	0.258 ppb	89.802 %	88.910 %	0.443 ppb	0.059 ppb	93.648 %
Concentration per Run 2	0.246 ppb	100.899 %	101.648 %	0.459 ppb	0.051 ppb	100.118 %
Concentration per Run 3	0.217 ppb	102.668 %	104.891 %	0.394 ppb	0.049 ppb	105.105 %
Concentration RSD	8.7 %	7.1 %	8.6 %	7.9 %	9.6 %	5.8 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 10 User name: ALPHALAB\Metals-Instrument Comment: ICV
 Analysis label: ICV Rack: 0
 Analysis started at: 9/23/2024 2:04:24 PM Vial: 7

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	99.240 %	104.841 %	48.656 ppb	4,693.010 ppb	4,741.554 ppb	45.415 ppb	4,765.536 ppb	4,690.159 ppb	115.260 %
Concentration per Run 1	97.154 %	105.549 %	48.984 ppb	4,465.351 ppb	4,450.494 ppb	42.447 ppb	4,390.998 ppb	4,308.612 ppb	114.375 %
Concentration per Run 2	100.607 %	105.094 %	48.536 ppb	4,709.105 ppb	4,767.004 ppb	46.078 ppb	4,827.486 ppb	4,800.797 ppb	115.860 %
Concentration per Run 3	99.959 %	103.879 %	48.448 ppb	4,904.575 ppb	5,007.165 ppb	47.722 ppb	5,078.124 ppb	4,961.068 ppb	115.545 %
Recovery Percentage 1			97.313 %	93.860 %	94.831 %	90.831 %	95.311 %	93.803 %	
Concentration RSD	1.8 %	0.8 %	0.6 %	4.7 %	5.9 %	5.9 %	7.3 %	7.2 %	0.7 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	46.685 ppb	46.631 ppb	46.841 ppb	4,689.046 ppb	47.452 ppb	47.650 ppb	48.211 ppb	48.154 ppb	104.007 %
Concentration per Run 1	44.251 ppb	43.530 ppb	42.834 ppb	4,326.912 ppb	44.773 ppb	44.476 ppb	44.414 ppb	44.785 ppb	107.333 %
Concentration per Run 2	48.303 ppb	48.407 ppb	48.667 ppb	4,879.235 ppb	48.916 ppb	49.647 ppb	50.245 ppb	50.465 ppb	99.917 %
Concentration per Run 3	47.502 ppb	47.956 ppb	49.023 ppb	4,860.990 ppb	48.666 ppb	48.828 ppb	49.975 ppb	49.212 ppb	104.771 %
Recovery Percentage 1	93.370 %	93.262 %	93.682 %	93.781 %	94.903 %	95.301 %	96.422 %	96.308 %	
Concentration RSD	4.6 %	5.8 %	7.4 %	6.7 %	4.9 %	5.8 %	6.8 %	6.2 %	3.6 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	47.251 ppb	46.750 ppb	43.896 ppb	47.715 ppb	105.166 %	45.017 ppb	46.805 ppb	105.216 %	45.731 ppb
Concentration per Run 1	43.655 ppb	42.802 ppb	39.908 ppb	43.973 ppb	109.892 %	41.763 ppb	43.408 ppb	108.201 %	42.467 ppb
Concentration per Run 2	49.604 ppb	48.786 ppb	45.926 ppb	50.046 ppb	101.215 %	47.193 ppb	48.903 ppb	101.420 %	48.207 ppb
Concentration per Run 3	48.495 ppb	48.663 ppb	45.852 ppb	49.126 ppb	104.389 %	46.096 ppb	48.105 ppb	106.027 %	46.519 ppb
Recovery Percentage 1	94.503 %	93.500 %	87.791 %	95.430 %		90.035 %	93.611 %		91.462 %
Concentration RSD	6.7 %	7.3 %	7.9 %	6.9 %	4.2 %	6.4 %	6.3 %	3.3 %	6.5 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	46.413 ppb	106.135 %	105.580 %	47.812 ppb	45.303 ppb	109.838 %
Concentration per Run 1	42.337 ppb	109.806 %	109.625 %	42.905 ppb	40.554 ppb	119.077 %
Concentration per Run 2	48.929 ppb	102.984 %	102.829 %	50.108 ppb	47.511 ppb	105.213 %
Concentration per Run 3	47.974 ppb	105.615 %	104.286 %	50.422 ppb	47.846 ppb	105.224 %
Recovery Percentage 1	92.826 %			95.624 %	90.607 %	
Concentration RSD	7.7 %	3.2 %	3.4 %	8.9 %	9.1 %	7.3 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 11 User name: ALPHALAB\Metals-Instrument Comment: ICB
 Analysis label: ICB Rack: 0
 Analysis started at: 9/23/2024 2:09:04 PM Vial: 10

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	100.001 %	103.559 %	0.009 ppb	-3.485 ppb	-1.994 ppb	-0.530 ppb	-5.145 ppb	-0.796 ppb	106.869 %
Concentration per Run 1	98.193 %	99.932 %	0.014 ppb	-2.238 ppb	-1.887 ppb	-0.595 ppb	-4.618 ppb	1.004 ppb	104.406 %
Concentration per Run 2	101.006 %	100.742 %	0.003 ppb	-3.336 ppb	-2.208 ppb	-0.477 ppb	-4.352 ppb	-1.344 ppb	107.757 %
Concentration per Run 3	100.805 %	110.002 %	0.010 ppb	-4.880 ppb	-1.885 ppb	-0.519 ppb	-6.464 ppb	-2.049 ppb	108.444 %
Recovery Percentage 1			1.803 %	-3.485 %	-2.848 %	-5.304 %	-5.145 %	-0.796 %	
Concentration RSD	1.6 %	5.4 %	60.0 %	38.1 %	9.3 %	11.3 %	22.4 %	200.7 %	2.0 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.020 ppb	-0.003 ppb	-0.039 ppb	12.024 ppb	-0.001 ppb	0.245 ppb	-0.071 ppb	-0.241 ppb	101.243 %
Concentration per Run 1	0.032 ppb	-0.003 ppb	-0.033 ppb	10.560 ppb	0.000 ppb	0.285 ppb	-0.054 ppb	-0.234 ppb	97.561 %
Concentration per Run 2	0.014 ppb	-0.002 ppb	-0.048 ppb	12.156 ppb	-0.001 ppb	0.216 ppb	-0.079 ppb	-0.226 ppb	100.985 %
Concentration per Run 3	0.013 ppb	-0.005 ppb	-0.035 ppb	13.355 ppb	-0.001 ppb	0.234 ppb	-0.079 ppb	-0.264 ppb	105.183 %
Recovery Percentage 1	0.391 %	-0.346 %	-3.869 %	24.048 %	-0.125 %	12.256 %	-7.052 %	-4.825 %	
Concentration RSD	53.5 %	50.5 %	22.0 %	11.7 %	59.8 %	14.7 %	20.0 %	8.3 %	3.8 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.049 ppb	0.186 ppb	-0.001 ppb	1.805 ppb	105.135 %	0.002 ppb	0.003 ppb	103.773 %	0.264 ppb
Concentration per Run 1	0.055 ppb	0.191 ppb	-0.001 ppb	1.331 ppb	103.390 %	0.003 ppb	0.004 ppb	99.650 %	0.154 ppb
Concentration per Run 2	0.048 ppb	0.185 ppb	-0.002 ppb	1.836 ppb	104.836 %	0.001 ppb	0.003 ppb	103.729 %	0.266 ppb
Concentration per Run 3	0.043 ppb	0.182 ppb	-0.001 ppb	2.249 ppb	107.178 %	0.002 ppb	0.001 ppb	107.941 %	0.371 ppb
Recovery Percentage 1	9.810 %	3.718 %	-0.014 %	90.266 %		0.470 %	1.385 %		6.590 %
Concentration RSD	12.4 %	2.6 %	22.6 %	25.5 %	1.8 %	63.4 %	56.4 %	4.0 %	41.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.007 ppb	104.348 %	104.110 %	0.281 ppb	0.007 ppb	104.175 %
Concentration per Run 1	0.006 ppb	101.055 %	100.564 %	0.253 ppb	0.004 ppb	105.029 %
Concentration per Run 2	0.007 ppb	104.395 %	103.776 %	0.322 ppb	0.009 ppb	102.827 %
Concentration per Run 3	0.008 ppb	107.592 %	107.990 %	0.269 ppb	0.009 ppb	104.669 %
Recovery Percentage 1	1.418 %			28.111 %	0.741 %	
Concentration RSD	18.7 %	3.1 %	3.6 %	13.0 %	35.1 %	1.1 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 12 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: ICSA Rack: 4
 Analysis started at: 9/23/2024 2:14:10 PM Vial: 53

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	155.681 %	114.152 %	0.019 ppb	271,394.839 ppb	102,313.859 ppb	97,263.017 ppb	104,752.851 ppb	308,061.870 ppb	202.840 %
Concentration per Run 1	158.175 %	103.525 %	0.007 ppb	278,902.130 ppb	105,523.613 ppb	97,611.785 ppb	105,775.778 ppb	319,460.910 ppb	209.558 %
Concentration per Run 2	158.608 %	112.077 %	0.026 ppb	277,830.318 ppb	104,776.720 ppb	100,409.384 ppb	106,834.927 ppb	308,482.664 ppb	201.746 %
Concentration per Run 3	150.260 %	126.853 %	0.024 ppb	257,452.068 ppb	96,641.245 ppb	93,767.882 ppb	101,647.848 ppb	296,242.035 ppb	197.217 %
Recovery Percentage 1			1.921 %	108.558 %	102.314 %	97.263 %	104.753 %	102.687 %	
Concentration RSD	3.0 %	10.3 %	54.6 %	4.5 %	4.8 %	3.4 %	2.6 %	3.8 %	3.1 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.068 ppb	1.175 ppb	5.022 ppb	231,864.558 ppb	2.232 ppb	2.631 ppb	1.204 ppb	1.798 ppb	117.223 %
Concentration per Run 1	0.048 ppb	1.272 ppb	5.291 ppb	243,689.287 ppb	2.389 ppb	2.863 ppb	1.178 ppb	1.895 ppb	103.239 %
Concentration per Run 2	0.101 ppb	1.157 ppb	4.957 ppb	228,668.364 ppb	2.143 ppb	2.523 ppb	1.154 ppb	1.718 ppb	122.842 %
Concentration per Run 3	0.056 ppb	1.097 ppb	4.818 ppb	223,236.023 ppb	2.165 ppb	2.508 ppb	1.280 ppb	1.782 ppb	125.587 %
Recovery Percentage 1	1.363 %	35.614 %	88.104 %	92.746 %	77.781 %	43.133 %	42.699 %	15.774 %	
Concentration RSD	41.7 %	7.6 %	4.8 %	4.6 %	6.1 %	7.6 %	5.6 %	5.0 %	10.4 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.572 ppb	2.949 ppb	2.546 ppb	2,642.898 ppb	99.199 %	0.042 ppb	0.596 ppb	105.113 %	0.242 ppb
Concentration per Run 1	0.614 ppb	3.002 ppb	2.600 ppb	2,745.384 ppb	91.467 %	0.034 ppb	0.621 ppb	94.077 %	0.213 ppb
Concentration per Run 2	0.542 ppb	2.993 ppb	2.512 ppb	2,584.242 ppb	103.018 %	0.039 ppb	0.579 ppb	110.343 %	0.238 ppb
Concentration per Run 3	0.561 ppb	2.852 ppb	2.527 ppb	2,599.069 ppb	103.112 %	0.054 ppb	0.587 ppb	110.918 %	0.274 ppb
Recovery Percentage 1	35.104 %	22.860 %	94.312 %	132.145 %		5.305 %	148.926 %		3.020 %
Concentration RSD	6.5 %	2.9 %	1.8 %	3.4 %	6.8 %	24.9 %	3.8 %	9.1 %	12.7 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	1.347 ppb	93.607 %	87.857 %	0.112 ppb	1.756 ppb	76.793 %
Concentration per Run 1	1.407 ppb	86.966 %	80.852 %	0.086 ppb	1.830 ppb	72.488 %
Concentration per Run 2	1.363 ppb	96.720 %	92.126 %	0.124 ppb	1.723 ppb	78.769 %
Concentration per Run 3	1.273 ppb	97.135 %	90.594 %	0.125 ppb	1.715 ppb	79.122 %
Recovery Percentage 1	71.675 %			5.577 %	56.643 %	
Concentration RSD	5.1 %	6.1 %	7.0 %	19.9 %	3.7 %	4.9 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 13 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: LDR Check Rack: 4
 Analysis started at: 9/23/2024 2:18:52 PM Vial: 1

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	135.267 %	135.692 %	0.005 ppb	23.785 ppb	1.123 ppb	2.898 ppb	0.360 ppb	8.786 ppb	160.218 %
Concentration per Run 1	132.985 %	127.157 %	0.002 ppb	27.186 ppb	1.725 ppb	2.917 ppb	2.921 ppb	10.179 ppb	158.043 %
Concentration per Run 2	134.782 %	140.313 %	0.008 ppb	23.259 ppb	0.815 ppb	2.845 ppb	-0.749 ppb	7.849 ppb	160.315 %
Concentration per Run 3	138.034 %	139.605 %	0.005 ppb	20.909 ppb	0.828 ppb	2.930 ppb	-1.091 ppb	8.328 ppb	162.296 %
Concentration RSD	1.9 %	5.5 %	66.0 %	13.3 %	46.5 %	1.6 %	617.1 %	14.0 %	1.3 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.004 ppb	0.042 ppb	9,549.963 ppb	93.840 ppb	0.047 ppb	10,370.514 ppb	10,303.662 ppb	10,392.978 ppb	141.495 %
Concentration per Run 1	0.000 ppb	0.046 ppb	10,091.804 ppb	87.491 ppb	0.047 ppb	11,159.895 ppb	11,147.149 ppb	11,196.760 ppb	130.024 %
Concentration per Run 2	-0.005 ppb	0.045 ppb	9,398.579 ppb	97.048 ppb	0.051 ppb	10,129.947 ppb	10,002.406 ppb	10,099.927 ppb	147.091 %
Concentration per Run 3	0.017 ppb	0.037 ppb	9,159.505 ppb	96.980 ppb	0.042 ppb	9,821.700 ppb	9,761.430 ppb	9,882.246 ppb	147.368 %
Concentration RSD	277.1 %	11.2 %	5.1 %	5.9 %	9.4 %	6.8 %	7.2 %	6.8 %	7.0 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	993.889 ppb	0.538 ppb	0.220 ppb	22.980 ppb	134.716 %	0.163 ppb	0.025 ppb	130.349 %	0.722 ppb
Concentration per Run 1	1,068.015 ppb	0.571 ppb	0.232 ppb	19.699 ppb	126.837 %	0.178 ppb	0.026 ppb	120.553 %	0.769 ppb
Concentration per Run 2	965.694 ppb	0.560 ppb	0.214 ppb	22.983 ppb	140.019 %	0.153 ppb	0.023 ppb	135.020 %	0.687 ppb
Concentration per Run 3	947.958 ppb	0.483 ppb	0.214 ppb	26.259 ppb	137.293 %	0.157 ppb	0.027 ppb	135.473 %	0.709 ppb
Concentration RSD	6.5 %	8.9 %	4.8 %	14.3 %	5.2 %	8.1 %	9.1 %	6.5 %	5.9 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	10,243.699 ppb	117.273 %	115.919 %	0.098 ppb	9,939.592 ppb	112.107 %
Concentration per Run 1	10,957.586 ppb	108.566 %	106.238 %	0.086 ppb	10,740.237 ppb	103.990 %
Concentration per Run 2	9,848.655 ppb	122.528 %	120.682 %	0.107 ppb	9,670.253 ppb	114.259 %
Concentration per Run 3	9,924.855 ppb	120.725 %	120.838 %	0.100 ppb	9,408.285 ppb	118.072 %
Concentration RSD	6.0 %	6.5 %	7.2 %	10.9 %	7.1 %	6.5 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 14 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: Rinse Rack: 0
 Analysis started at: 9/23/2024 2:23:33 PM Vial: 1

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	111.146 %	121.556 %	0.052 ppb	8.795 ppb	-1.865 ppb	-0.314 ppb	1.448 ppb	-2.151 ppb	125.402 %
Concentration per Run 1	109.616 %	124.019 %	0.058 ppb	9.451 ppb	-1.831 ppb	-0.358 ppb	1.875 ppb	-1.756 ppb	124.175 %
Concentration per Run 2	112.206 %	122.754 %	0.041 ppb	7.434 ppb	-1.633 ppb	-0.300 ppb	1.457 ppb	-2.808 ppb	126.730 %
Concentration per Run 3	111.615 %	117.896 %	0.056 ppb	9.500 ppb	-2.133 ppb	-0.283 ppb	1.014 ppb	-1.891 ppb	125.300 %
Concentration RSD	1.2 %	2.7 %	18.4 %	13.4 %	13.5 %	12.4 %	29.7 %	26.6 %	1.0 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	-0.019 ppb	-0.020 ppb	0.141 ppb	19.194 ppb	0.012 ppb	-0.179 ppb	0.184 ppb	0.346 ppb	116.601 %
Concentration per Run 1	-0.020 ppb	-0.022 ppb	0.120 ppb	16.488 ppb	0.011 ppb	-0.189 ppb	0.201 ppb	0.584 ppb	117.729 %
Concentration per Run 2	-0.013 ppb	-0.015 ppb	0.173 ppb	19.381 ppb	0.012 ppb	-0.161 ppb	0.185 ppb	0.263 ppb	117.627 %
Concentration per Run 3	-0.022 ppb	-0.021 ppb	0.131 ppb	21.714 ppb	0.012 ppb	-0.186 ppb	0.165 ppb	0.192 ppb	114.446 %
Concentration RSD	25.5 %	18.6 %	19.6 %	13.6 %	7.1 %	8.6 %	10.0 %	60.4 %	1.6 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.735 ppb	0.015 ppb	0.001 ppb	4.192 ppb	116.518 %	0.010 ppb	0.000 ppb	114.568 %	0.086 ppb
Concentration per Run 1	0.797 ppb	-0.010 ppb	0.000 ppb	2.877 ppb	118.119 %	0.012 ppb	0.000 ppb	116.627 %	0.067 ppb
Concentration per Run 2	0.726 ppb	0.009 ppb	0.001 ppb	4.206 ppb	115.908 %	0.009 ppb	0.001 ppb	114.388 %	0.084 ppb
Concentration per Run 3	0.682 ppb	0.045 ppb	0.002 ppb	5.492 ppb	115.527 %	0.008 ppb	0.000 ppb	112.691 %	0.107 ppb
Concentration RSD	7.9 %	193.0 %	69.6 %	31.2 %	1.2 %	18.5 %	160.6 %	1.7 %	22.9 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.078 ppb	110.126 %	108.410 %	0.041 ppb	1.038 ppb	111.501 %
Concentration per Run 1	0.081 ppb	110.905 %	108.684 %	0.025 ppb	1.176 ppb	114.054 %
Concentration per Run 2	0.081 ppb	109.249 %	108.254 %	0.048 ppb	1.048 ppb	109.292 %
Concentration per Run 3	0.072 ppb	110.225 %	108.292 %	0.049 ppb	0.890 ppb	111.157 %
Concentration RSD	7.0 %	0.8 %	0.2 %	33.4 %	13.8 %	2.2 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 15 User name: ALPHALAB\Metals-Instrument Comment: CCV/MCCV
Analysis label: CCV Rack: 0
Analysis started at: 9/23/2024 2:28:09 PM Vial: 9

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	105.195 %	117.643 %	55.605 ppb	5,676.929 ppb	5,799.842 ppb	56.808 ppb	5,947.507 ppb	5,780.855 ppb	121.520 %
Concentration per Run 1	103.876 %	113.342 %	55.923 ppb	6,008.716 ppb	6,230.123 ppb	60.951 ppb	6,398.305 ppb	6,181.479 ppb	122.233 %
Concentration per Run 2	105.730 %	126.246 %	55.964 ppb	5,216.216 ppb	5,283.431 ppb	51.972 ppb	5,527.001 ppb	5,323.771 ppb	120.741 %
Concentration per Run 3	105.979 %	113.342 %	54.930 ppb	5,805.854 ppb	5,885.972 ppb	57.502 ppb	5,917.214 ppb	5,837.315 ppb	121.585 %
Recovery Percentage 1			92.676 %	94.615 %	96.664 %	94.681 %	99.125 %	96.348 %	
Concentration RSD	1.1 %	6.3 %	1.1 %	7.3 %	8.3 %	8.0 %	7.3 %	7.5 %	0.6 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	55.641 ppb	55.463 ppb	56.000 ppb	5,628.573 ppb	57.112 ppb	57.523 ppb	57.992 ppb	58.017 ppb	111.626 %
Concentration per Run 1	60.318 ppb	59.906 ppb	59.576 ppb	6,022.160 ppb	61.171 ppb	62.554 ppb	62.437 ppb	62.136 ppb	105.313 %
Concentration per Run 2	50.985 ppb	50.969 ppb	51.852 ppb	5,181.973 ppb	52.865 ppb	52.592 ppb	53.737 ppb	53.504 ppb	118.288 %
Concentration per Run 3	55.621 ppb	55.514 ppb	56.572 ppb	5,681.587 ppb	57.301 ppb	57.424 ppb	57.802 ppb	58.412 ppb	111.277 %
Recovery Percentage 1	92.736 %	92.438 %	93.333 %	93.810 %	95.187 %	95.872 %	96.653 %	96.695 %	
Concentration RSD	8.4 %	8.1 %	7.0 %	7.5 %	7.3 %	8.7 %	7.5 %	7.5 %	5.8 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	57.046 ppb	56.982 ppb	57.565 ppb	62.035 ppb	109.845 %	58.546 ppb	57.662 ppb	109.813 %	57.518 ppb
Concentration per Run 1	61.407 ppb	60.805 ppb	62.143 ppb	65.978 ppb	104.092 %	63.076 ppb	62.409 ppb	103.526 %	62.587 ppb
Concentration per Run 2	53.091 ppb	52.511 ppb	52.899 ppb	57.775 ppb	116.488 %	54.305 ppb	52.936 ppb	116.945 %	52.309 ppb
Concentration per Run 3	56.639 ppb	57.630 ppb	57.654 ppb	62.352 ppb	108.954 %	58.257 ppb	57.640 ppb	108.968 %	57.660 ppb
Recovery Percentage 1	95.077 %	94.970 %	95.942 %	103.392 %		97.576 %	96.103 %		95.864 %
Concentration RSD	7.3 %	7.3 %	8.0 %	6.6 %	5.7 %	7.5 %	8.2 %	6.1 %	8.9 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	58.042 ppb	107.639 %	107.829 %	60.612 ppb	57.863 ppb	105.874 %
Concentration per Run 1	62.773 ppb	101.085 %	101.472 %	63.310 ppb	59.770 ppb	103.264 %
Concentration per Run 2	53.704 ppb	114.368 %	113.900 %	57.465 ppb	55.266 ppb	109.198 %
Concentration per Run 3	57.648 ppb	107.463 %	108.113 %	61.062 ppb	58.553 ppb	105.159 %
Recovery Percentage 1	96.736 %			101.020 %	96.439 %	
Concentration RSD	7.8 %	6.2 %	5.8 %	4.9 %	4.0 %	2.9 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 16 User name: ALPHALAB\Metals-Instrument Comment: CCB
 Analysis label: CCB Rack: 0
 Analysis started at: 9/23/2024 2:32:50 PM Vial: 10

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	102.497 %	116.125 %	0.001 ppb	3.858 ppb	-2.098 ppb	-0.492 ppb	-1.174 ppb	-1.573 ppb	112.679 %
Concentration per Run 1	101.741 %	116.125 %	-0.006 ppb	3.499 ppb	-2.245 ppb	-0.464 ppb	0.185 ppb	-1.371 ppb	110.349 %
Concentration per Run 2	103.239 %	116.682 %	0.005 ppb	4.049 ppb	-1.979 ppb	-0.444 ppb	-0.805 ppb	-2.498 ppb	113.510 %
Concentration per Run 3	102.510 %	115.568 %	0.003 ppb	4.026 ppb	-2.071 ppb	-0.569 ppb	-2.901 ppb	-0.851 ppb	114.176 %
Recovery Percentage 1			0.128 %	3.858 %	-2.998 %	-4.924 %	-1.174 %	-1.573 %	
Concentration RSD	0.7 %	0.5 %	871.1 %	8.1 %	6.4 %	13.6 %	134.2 %	53.5 %	1.8 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	-0.013 ppb	-0.011 ppb	0.003 ppb	15.021 ppb	-0.001 ppb	0.246 ppb	-0.014 ppb	-0.186 ppb	108.825 %
Concentration per Run 1	-0.010 ppb	-0.011 ppb	0.012 ppb	12.255 ppb	0.000 ppb	0.274 ppb	-0.017 ppb	-0.183 ppb	109.744 %
Concentration per Run 2	-0.015 ppb	-0.013 ppb	-0.017 ppb	14.713 ppb	-0.001 ppb	0.251 ppb	-0.002 ppb	-0.178 ppb	108.631 %
Concentration per Run 3	-0.013 ppb	-0.008 ppb	0.016 ppb	18.096 ppb	-0.001 ppb	0.212 ppb	-0.023 ppb	-0.198 ppb	108.100 %
Recovery Percentage 1	-0.251 %	-1.076 %	0.342 %	30.042 %	-0.174 %	12.289 %	-1.402 %	-3.723 %	
Concentration RSD	17.4 %	26.5 %	530.8 %	19.5 %	74.0 %	12.6 %	79.7 %	5.6 %	0.8 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.108 ppb	0.147 ppb	-0.001 ppb	2.304 ppb	109.353 %	0.003 ppb	0.002 ppb	108.609 %	0.157 ppb
Concentration per Run 1	0.091 ppb	0.187 ppb	-0.001 ppb	1.663 ppb	110.918 %	0.003 ppb	0.002 ppb	109.736 %	0.089 ppb
Concentration per Run 2	0.127 ppb	0.156 ppb	-0.001 ppb	2.356 ppb	108.230 %	0.003 ppb	0.002 ppb	107.975 %	0.151 ppb
Concentration per Run 3	0.106 ppb	0.098 ppb	0.000 ppb	2.892 ppb	108.910 %	0.003 ppb	0.001 ppb	108.116 %	0.231 ppb
Recovery Percentage 1	21.599 %	2.945 %	-0.007 %	115.188 %		0.746 %	0.837 %		3.932 %
Concentration RSD	16.7 %	30.6 %	34.1 %	26.8 %	1.3 %	5.6 %	34.2 %	0.9 %	45.4 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.001 ppb	105.824 %	104.946 %	0.282 ppb	0.204 ppb	109.488 %
Concentration per Run 1	0.003 ppb	107.050 %	105.191 %	0.256 ppb	0.211 ppb	112.201 %
Concentration per Run 2	-0.001 ppb	106.234 %	105.716 %	0.319 ppb	0.203 ppb	108.916 %
Concentration per Run 3	0.001 ppb	104.186 %	103.932 %	0.271 ppb	0.198 ppb	107.345 %
Recovery Percentage 1	0.202 %			28.185 %	20.415 %	
Concentration RSD	220.5 %	1.4 %	0.9 %	11.6 %	3.2 %	2.3 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 17 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1973497-1 6020TL Rack: 1
 Analysis started at: 9/23/2024 2:40:48 PM Vial: 1

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	104.798 %	115.568 %	-0.004 ppb	0.786 ppb	-1.402 ppb	0.779 ppb	-5.432 ppb	9.604 ppb	117.353 %
Concentration per Run 1	102.478 %	120.072 %	-0.002 ppb	-0.626 ppb	-1.630 ppb	0.578 ppb	-7.368 ppb	10.078 ppb	115.745 %
Concentration per Run 2	105.790 %	110.761 %	-0.009 ppb	1.124 ppb	-1.210 ppb	0.784 ppb	-5.202 ppb	9.761 ppb	118.000 %
Concentration per Run 3	106.125 %	115.872 %	0.000 ppb	1.859 ppb	-1.366 ppb	0.976 ppb	-3.725 ppb	8.972 ppb	118.313 %
Concentration RSD	1.9 %	4.0 %	132.2 %	162.5 %	15.1 %	25.5 %	33.7 %	5.9 %	1.2 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	-0.024 ppb	-0.013 ppb	-0.064 ppb	2.954 ppb	-0.002 ppb	-0.353 ppb	-0.045 ppb	-0.340 ppb	110.229 %
Concentration per Run 1	-0.034 ppb	-0.012 ppb	-0.073 ppb	1.711 ppb	-0.002 ppb	-0.391 ppb	-0.057 ppb	-0.375 ppb	114.217 %
Concentration per Run 2	-0.018 ppb	-0.012 ppb	-0.065 ppb	2.977 ppb	-0.002 ppb	-0.337 ppb	-0.050 ppb	-0.322 ppb	108.925 %
Concentration per Run 3	-0.021 ppb	-0.015 ppb	-0.053 ppb	4.174 ppb	-0.001 ppb	-0.332 ppb	-0.030 ppb	-0.323 ppb	107.546 %
Concentration RSD	34.0 %	15.9 %	16.2 %	41.7 %	41.2 %	9.3 %	31.3 %	8.9 %	3.2 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.020 ppb	-0.003 ppb	0.004 ppb	0.556 ppb	112.339 %	-0.001 ppb	0.000 ppb	111.211 %	0.052 ppb
Concentration per Run 1	0.009 ppb	-0.009 ppb	0.003 ppb	0.347 ppb	117.656 %	-0.001 ppb	0.000 ppb	115.318 %	0.033 ppb
Concentration per Run 2	0.033 ppb	-0.007 ppb	0.006 ppb	0.559 ppb	109.972 %	-0.001 ppb	0.000 ppb	109.691 %	0.057 ppb
Concentration per Run 3	0.019 ppb	0.008 ppb	0.004 ppb	0.761 ppb	109.388 %	-0.001 ppb	0.000 ppb	108.622 %	0.066 ppb
Concentration RSD	60.4 %	328.2 %	27.4 %	37.3 %	4.1 %	28.1 %	174.0 %	3.2 %	32.8 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.065 ppb	109.129 %	108.510 %	0.046 ppb	0.076 ppb	116.431 %
Concentration per Run 1	0.066 ppb	114.348 %	112.969 %	0.028 ppb	0.077 ppb	122.376 %
Concentration per Run 2	0.062 ppb	107.062 %	107.042 %	0.054 ppb	0.078 ppb	114.701 %
Concentration per Run 3	0.068 ppb	105.977 %	105.518 %	0.056 ppb	0.074 ppb	112.216 %
Concentration RSD	4.8 %	4.2 %	3.6 %	33.6 %	2.9 %	4.5 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 18 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1973497-2d10 6020TL Rack: 1
 Analysis started at: 9/23/2024 2:45:25 PM Vial: 2

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	102.594 %	114.978 %	5.136 ppb	1,120.744 ppb	1,066.772 ppb	210.342 ppb	1,124.984 ppb	920.456 ppb	103.395 %
Concentration per Run 1	100.758 %	106.814 %	5.235 ppb	1,214.619 ppb	1,149.370 ppb	218.233 ppb	1,174.987 ppb	986.648 ppb	102.353 %
Concentration per Run 2	103.564 %	121.590 %	4.987 ppb	1,101.778 ppb	1,048.120 ppb	216.808 ppb	1,140.972 ppb	907.137 ppb	104.244 %
Concentration per Run 3	103.459 %	116.530 %	5.185 ppb	1,045.836 ppb	1,002.827 ppb	195.985 ppb	1,058.993 ppb	867.583 ppb	103.588 %
Concentration RSD	1.6 %	6.5 %	2.6 %	7.7 %	7.0 %	5.9 %	5.3 %	6.6 %	0.9 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	50.461 ppb	20.532 ppb	53.520 ppb	112.032 ppb	52.078 ppb	52.980 ppb	26.831 ppb	54.500 ppb	108.798 %
Concentration per Run 1	54.351 ppb	22.337 ppb	57.754 ppb	126.191 ppb	56.935 ppb	58.054 ppb	29.336 ppb	59.932 ppb	97.889 %
Concentration per Run 2	49.282 ppb	19.739 ppb	53.035 ppb	105.212 ppb	49.051 ppb	50.162 ppb	24.914 ppb	51.316 ppb	118.808 %
Concentration per Run 3	47.749 ppb	19.520 ppb	49.771 ppb	104.693 ppb	50.248 ppb	50.725 ppb	26.243 ppb	52.253 ppb	109.696 %
Concentration RSD	6.8 %	7.6 %	7.5 %	10.9 %	8.2 %	8.3 %	8.5 %	8.7 %	9.6 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	12.864 ppb	12.708 ppb	103.920 ppb	109.942 ppb	106.334 %	5.240 ppb	5.680 ppb	106.019 %	40.840 ppb
Concentration per Run 1	14.166 ppb	13.520 ppb	112.196 ppb	123.051 ppb	98.133 %	5.734 ppb	6.211 ppb	96.449 %	44.720 ppb
Concentration per Run 2	12.443 ppb	12.697 ppb	102.876 ppb	104.082 ppb	111.459 %	4.963 ppb	5.389 ppb	115.106 %	38.597 ppb
Concentration per Run 3	11.983 ppb	11.907 ppb	96.688 ppb	102.691 ppb	109.408 %	5.024 ppb	5.440 ppb	106.503 %	39.205 ppb
Concentration RSD	8.9 %	6.3 %	7.5 %	10.3 %	6.7 %	8.2 %	8.1 %	8.8 %	8.3 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	220.925 ppb	103.397 %	103.018 %	13.880 ppb	57.075 ppb	101.078 %
Concentration per Run 1	237.633 ppb	94.567 %	93.476 %	15.021 ppb	62.311 ppb	93.068 %
Concentration per Run 2	213.472 ppb	108.786 %	109.518 %	13.383 ppb	55.103 ppb	104.315 %
Concentration per Run 3	211.671 ppb	106.837 %	106.062 %	13.237 ppb	53.812 ppb	105.849 %
Concentration RSD	6.6 %	7.5 %	8.2 %	7.1 %	8.0 %	6.9 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 19 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2453005-01 6020TL Rack: 1
 Analysis started at: 9/23/2024 2:50:02 PM Vial: 3

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	117.078 %	116.361 %	0.017 ppb	157,579.930 ppb	19,876.653 ppb	235.020 ppb	18,937.880 ppb	190,186.708 ppb	152.002 %
Concentration per Run 1	115.069 %	121.135 %	0.022 ppb	145,357.744 ppb	18,363.610 ppb	215.658 ppb	17,725.657 ppb	176,201.098 ppb	149.593 %
Concentration per Run 2	116.977 %	107.573 %	0.020 ppb	175,717.477 ppb	22,113.386 ppb	263.851 ppb	21,169.838 ppb	211,394.289 ppb	151.379 %
Concentration per Run 3	119.189 %	120.376 %	0.010 ppb	151,664.568 ppb	19,152.962 ppb	225.549 ppb	17,918.144 ppb	182,964.737 ppb	155.033 %
Concentration RSD	1.8 %	6.5 %	37.4 %	10.2 %	9.9 %	10.8 %	10.2 %	9.8 %	1.8 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	13.827 ppb	1.130 ppb	2,416.434 ppb	19,227.096 ppb	1.386 ppb	74.488 ppb	1.204 ppb	4.760 ppb	105.452 %
Concentration per Run 1	12.833 ppb	1.063 ppb	2,215.421 ppb	17,499.179 ppb	1.244 ppb	68.128 ppb	1.141 ppb	4.248 ppb	109.550 %
Concentration per Run 2	15.475 ppb	1.237 ppb	2,682.567 ppb	21,432.418 ppb	1.542 ppb	82.670 ppb	1.348 ppb	5.316 ppb	97.523 %
Concentration per Run 3	13.174 ppb	1.091 ppb	2,351.312 ppb	18,749.690 ppb	1.373 ppb	72.667 ppb	1.124 ppb	4.716 ppb	109.284 %
Concentration RSD	10.4 %	8.3 %	9.9 %	10.5 %	10.8 %	10.0 %	10.4 %	11.2 %	6.5 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	9.037 ppb	0.282 ppb	834.726 ppb	6.797 ppb	97.274 %	0.004 ppb	0.014 ppb	102.477 %	2.333 ppb
Concentration per Run 1	8.297 ppb	0.304 ppb	770.881 ppb	5.509 ppb	99.415 %	0.004 ppb	0.008 ppb	106.371 %	1.985 ppb
Concentration per Run 2	10.109 ppb	0.286 ppb	919.863 ppb	7.527 ppb	91.123 %	0.005 ppb	0.020 ppb	95.386 %	2.611 ppb
Concentration per Run 3	8.705 ppb	0.257 ppb	813.434 ppb	7.354 ppb	101.285 %	0.004 ppb	0.013 ppb	105.675 %	2.403 ppb
Concentration RSD	10.5 %	8.4 %	9.2 %	16.5 %	5.6 %	10.1 %	43.2 %	6.0 %	13.7 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	184.246 ppb	101.960 %	101.615 %	0.058 ppb	3.998 ppb	87.361 %
Concentration per Run 1	171.466 ppb	104.664 %	104.118 %	0.043 ppb	3.434 ppb	96.959 %
Concentration per Run 2	199.626 ppb	95.402 %	95.016 %	0.071 ppb	4.472 ppb	79.296 %
Concentration per Run 3	181.646 ppb	105.815 %	105.712 %	0.059 ppb	4.089 ppb	85.828 %
Concentration RSD	7.7 %	5.6 %	5.7 %	24.8 %	13.1 %	10.2 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 20 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1973497-3d10 6020TL Rack: 1
 Analysis started at: 9/23/2024 2:54:40 PM Vial: 4

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	112.385 %	119.836 %	5.071 ppb	17,162.779 ppb	3,196.739 ppb	230.742 ppb	3,083.432 ppb	20,710.541 ppb	134.377 %
Concentration per Run 1	110.264 %	111.773 %	5.128 ppb	18,795.399 ppb	3,505.605 ppb	251.762 ppb	3,397.083 ppb	22,903.519 ppb	131.743 %
Concentration per Run 2	112.975 %	122.805 %	5.009 ppb	16,661.778 ppb	3,111.724 ppb	226.773 ppb	2,966.530 ppb	19,801.533 ppb	136.012 %
Concentration per Run 3	113.916 %	124.930 %	5.077 ppb	16,031.159 ppb	2,972.887 ppb	213.691 ppb	2,886.684 ppb	19,426.572 ppb	135.377 %
Concentration RSD	1.7 %	5.9 %	1.2 %	8.4 %	8.6 %	8.4 %	8.9 %	9.2 %	1.7 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	51.434 ppb	19.811 ppb	314.978 ppb	2,127.832 ppb	51.395 ppb	59.585 ppb	26.452 ppb	51.763 ppb	117.479 %
Concentration per Run 1	56.570 ppb	21.761 ppb	347.593 ppb	2,334.536 ppb	56.450 ppb	65.849 ppb	29.521 ppb	57.147 ppb	108.970 %
Concentration per Run 2	49.840 ppb	18.969 ppb	303.048 ppb	2,042.565 ppb	49.069 ppb	56.501 ppb	25.190 ppb	49.417 ppb	121.769 %
Concentration per Run 3	47.890 ppb	18.704 ppb	294.292 ppb	2,006.394 ppb	48.665 ppb	56.406 ppb	24.646 ppb	48.724 ppb	121.698 %
Concentration RSD	8.9 %	8.5 %	9.1 %	8.5 %	8.5 %	9.1 %	10.1 %	9.0 %	6.3 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	13.458 ppb	12.049 ppb	178.909 ppb	107.300 ppb	113.709 %	4.934 ppb	5.372 ppb	114.323 %	51.318 ppb
Concentration per Run 1	14.841 ppb	13.200 ppb	197.286 ppb	119.122 ppb	104.414 %	5.401 ppb	5.962 ppb	105.494 %	56.603 ppb
Concentration per Run 2	12.931 ppb	11.514 ppb	169.655 ppb	101.922 ppb	118.858 %	4.665 ppb	5.044 ppb	118.659 %	49.022 ppb
Concentration per Run 3	12.602 ppb	11.434 ppb	169.786 ppb	100.857 ppb	117.854 %	4.734 ppb	5.108 ppb	118.817 %	48.330 ppb
Concentration RSD	9.0 %	8.3 %	8.9 %	9.6 %	7.1 %	8.2 %	9.5 %	6.7 %	8.9 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	230.155 ppb	110.800 %	109.651 %	13.055 ppb	53.825 ppb	106.186 %
Concentration per Run 1	250.105 ppb	101.609 %	100.318 %	13.958 ppb	57.814 ppb	101.019 %
Concentration per Run 2	219.336 ppb	116.809 %	115.157 %	13.076 ppb	53.988 ppb	104.167 %
Concentration per Run 3	221.023 ppb	113.981 %	113.476 %	12.132 ppb	49.675 ppb	113.373 %
Concentration RSD	7.5 %	7.3 %	7.4 %	7.0 %	7.6 %	6.0 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 21 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1973497-4d10 6020TL Rack: 1
 Analysis started at: 9/23/2024 2:59:18 PM Vial: 5

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	111.005 %	117.306 %	5.227 ppb	17,227.467 ppb	3,186.011 ppb	231.168 ppb	3,086.343 ppb	21,094.104 ppb	127.136 %
Concentration per Run 1	109.693 %	119.768 %	5.244 ppb	16,867.896 ppb	3,093.683 ppb	223.037 ppb	3,015.772 ppb	20,695.739 ppb	125.623 %
Concentration per Run 2	111.117 %	114.809 %	5.148 ppb	17,480.791 ppb	3,246.836 ppb	237.059 ppb	3,121.762 ppb	21,029.227 ppb	128.129 %
Concentration per Run 3	112.204 %	117.340 %	5.287 ppb	17,333.714 ppb	3,217.516 ppb	233.408 ppb	3,121.496 ppb	21,557.344 ppb	127.655 %
Concentration RSD	1.1 %	2.1 %	1.4 %	1.9 %	2.6 %	3.1 %	2.0 %	2.1 %	1.0 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	51.892 ppb	19.940 ppb	319.470 ppb	2,133.111 ppb	52.308 ppb	60.618 ppb	26.256 ppb	52.062 ppb	115.466 %
Concentration per Run 1	51.107 ppb	19.503 ppb	312.070 ppb	2,105.696 ppb	51.649 ppb	59.873 ppb	25.870 ppb	51.809 ppb	113.935 %
Concentration per Run 2	53.480 ppb	20.298 ppb	325.408 ppb	2,143.108 ppb	52.855 ppb	61.783 ppb	26.497 ppb	52.673 ppb	115.666 %
Concentration per Run 3	51.090 ppb	20.018 ppb	320.933 ppb	2,150.528 ppb	52.421 ppb	60.197 ppb	26.401 ppb	51.705 ppb	116.796 %
Concentration RSD	2.6 %	2.0 %	2.1 %	1.1 %	1.2 %	1.7 %	1.3 %	1.0 %	1.2 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	13.509 ppb	12.013 ppb	182.130 ppb	112.721 ppb	109.801 %	5.011 ppb	5.497 ppb	111.673 %	52.127 ppb
Concentration per Run 1	13.377 ppb	12.103 ppb	181.737 ppb	113.155 ppb	109.546 %	4.944 ppb	5.482 ppb	112.415 %	51.521 ppb
Concentration per Run 2	13.587 ppb	11.615 ppb	181.857 ppb	111.597 ppb	109.323 %	4.982 ppb	5.478 ppb	110.814 %	52.577 ppb
Concentration per Run 3	13.564 ppb	12.321 ppb	182.796 ppb	113.410 ppb	110.534 %	5.107 ppb	5.531 ppb	111.792 %	52.281 ppb
Concentration RSD	0.9 %	3.0 %	0.3 %	0.9 %	0.6 %	1.7 %	0.5 %	0.7 %	1.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	234.417 ppb	107.443 %	106.144 %	13.283 ppb	54.843 ppb	103.184 %
Concentration per Run 1	227.942 ppb	107.677 %	107.246 %	12.695 ppb	52.845 ppb	105.681 %
Concentration per Run 2	236.831 ppb	107.263 %	104.987 %	13.452 ppb	55.546 ppb	102.381 %
Concentration per Run 3	238.478 ppb	107.388 %	106.198 %	13.703 ppb	56.139 ppb	101.488 %
Concentration RSD	2.4 %	0.2 %	1.1 %	4.0 %	3.2 %	2.1 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 22 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1973497-5d10 6020TL Rack: 1
 Analysis started at: 9/23/2024 3:03:56 PM Vial: 6

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	112.570 %	119.077 %	46.292 ppb	20,722.799 ppb	7,078.990 ppb	72.502 ppb	6,939.427 ppb	24,321.232 ppb	127.451 %
Concentration per Run 1	110.719 %	116.378 %	46.528 ppb	21,361.210 ppb	7,334.291 ppb	74.942 ppb	7,188.772 ppb	24,994.171 ppb	125.156 %
Concentration per Run 2	114.288 %	120.426 %	46.598 ppb	20,448.411 ppb	6,975.705 ppb	71.554 ppb	6,826.520 ppb	24,349.809 ppb	129.279 %
Concentration per Run 3	112.703 %	120.426 %	45.750 ppb	20,358.774 ppb	6,926.974 ppb	71.012 ppb	6,802.989 ppb	23,619.716 ppb	127.917 %
Concentration RSD	1.6 %	2.0 %	1.0 %	2.7 %	3.1 %	2.9 %	3.1 %	2.8 %	1.6 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	48.477 ppb	46.282 ppb	305.793 ppb	6,763.709 ppb	48.442 ppb	55.391 ppb	47.892 ppb	48.030 ppb	115.535 %
Concentration per Run 1	50.574 ppb	48.456 ppb	316.048 ppb	6,950.555 ppb	50.081 ppb	57.532 ppb	49.636 ppb	49.556 ppb	112.178 %
Concentration per Run 2	48.006 ppb	45.515 ppb	299.310 ppb	6,667.473 ppb	47.575 ppb	53.690 ppb	47.100 ppb	47.569 ppb	116.255 %
Concentration per Run 3	46.851 ppb	44.875 ppb	302.019 ppb	6,673.099 ppb	47.668 ppb	54.951 ppb	46.938 ppb	46.965 ppb	118.173 %
Concentration RSD	3.9 %	4.1 %	2.9 %	2.4 %	2.9 %	3.5 %	3.2 %	2.8 %	2.6 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	49.869 ppb	47.220 ppb	127.130 ppb	55.355 ppb	110.092 %	1.435 ppb	47.894 ppb	110.855 %	49.107 ppb
Concentration per Run 1	51.560 ppb	48.011 ppb	132.136 ppb	57.409 ppb	105.545 %	1.504 ppb	50.378 ppb	106.454 %	51.925 ppb
Concentration per Run 2	49.326 ppb	47.274 ppb	125.042 ppb	53.802 ppb	111.889 %	1.400 ppb	47.062 ppb	112.341 %	48.002 ppb
Concentration per Run 3	48.720 ppb	46.373 ppb	124.212 ppb	54.854 ppb	112.843 %	1.401 ppb	46.243 ppb	113.771 %	47.393 ppb
Concentration RSD	3.0 %	1.7 %	3.4 %	3.4 %	3.6 %	4.2 %	4.6 %	3.5 %	5.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	68.446 ppb	107.120 %	106.146 %	52.603 ppb	50.528 ppb	99.793 %
Concentration per Run 1	71.962 ppb	101.633 %	101.310 %	53.718 ppb	51.478 ppb	98.475 %
Concentration per Run 2	67.087 ppb	108.876 %	108.123 %	52.597 ppb	50.665 ppb	99.597 %
Concentration per Run 3	66.289 ppb	110.852 %	109.005 %	51.495 ppb	49.439 ppb	101.306 %
Concentration RSD	4.5 %	4.5 %	4.0 %	2.1 %	2.0 %	1.4 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 23 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1973497-6d5 6020TL Rack: 1
 Analysis started at: 9/23/2024 3:08:35 PM Vial: 7

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	112.431 %	122.653 %	0.005 ppb	31,388.042 ppb	4,166.957 ppb	48.433 ppb	3,923.799 ppb	39,303.435 ppb	135.402 %
Concentration per Run 1	111.335 %	128.118 %	0.005 ppb	30,947.895 ppb	4,137.029 ppb	48.636 ppb	3,976.278 ppb	38,940.937 ppb	134.423 %
Concentration per Run 2	113.020 %	121.388 %	0.011 ppb	30,863.853 ppb	4,107.711 ppb	47.904 ppb	3,837.786 ppb	38,859.709 ppb	134.946 %
Concentration per Run 3	112.940 %	118.453 %	0.000 ppb	32,352.377 ppb	4,256.132 ppb	48.759 ppb	3,957.332 ppb	40,109.660 ppb	136.837 %
Concentration RSD	0.8 %	4.0 %	107.3 %	2.7 %	1.9 %	1.0 %	1.9 %	1.8 %	0.9 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	2.888 ppb	0.228 ppb	494.248 ppb	3,836.159 ppb	0.276 ppb	14.882 ppb	0.161 ppb	0.930 ppb	120.779 %
Concentration per Run 1	2.793 ppb	0.214 ppb	481.156 ppb	3,675.825 ppb	0.246 ppb	13.952 ppb	0.137 ppb	0.859 ppb	127.913 %
Concentration per Run 2	2.904 ppb	0.226 ppb	500.804 ppb	3,886.155 ppb	0.288 ppb	15.076 ppb	0.168 ppb	0.936 ppb	117.924 %
Concentration per Run 3	2.967 ppb	0.243 ppb	500.785 ppb	3,946.498 ppb	0.295 ppb	15.616 ppb	0.179 ppb	0.994 ppb	116.499 %
Concentration RSD	3.1 %	6.3 %	2.3 %	3.7 %	9.5 %	5.7 %	13.4 %	7.3 %	5.1 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	1.887 ppb	0.218 ppb	159.391 ppb	3.271 ppb	112.750 %	0.000 ppb	0.006 ppb	115.691 %	0.510 ppb
Concentration per Run 1	1.794 ppb	0.253 ppb	159.648 ppb	2.346 ppb	116.969 %	0.000 ppb	0.004 ppb	124.596 %	0.319 ppb
Concentration per Run 2	1.948 ppb	0.200 ppb	158.695 ppb	3.424 ppb	110.822 %	0.000 ppb	0.008 ppb	110.479 %	0.524 ppb
Concentration per Run 3	1.919 ppb	0.202 ppb	159.830 ppb	4.041 ppb	110.459 %	0.000 ppb	0.006 ppb	111.997 %	0.686 ppb
Concentration RSD	4.3 %	13.8 %	0.4 %	26.2 %	3.2 %	381.8 %	35.0 %	6.7 %	36.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	36.105 ppb	110.156 %	111.235 %	0.260 ppb	0.747 ppb	107.029 %
Concentration per Run 1	34.903 ppb	114.707 %	117.730 %	0.223 ppb	0.693 ppb	113.921 %
Concentration per Run 2	37.187 ppb	106.398 %	107.418 %	0.299 ppb	0.766 ppb	104.774 %
Concentration per Run 3	36.225 ppb	109.365 %	108.556 %	0.258 ppb	0.780 ppb	102.392 %
Concentration RSD	3.2 %	3.8 %	5.1 %	14.5 %	6.3 %	5.7 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 24 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452357-01 6020TL Rack: 1
 Analysis started at: 9/23/2024 3:13:13 PM Vial: 13

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	144.563 %	127.291 %	0.035 ppb	796,085.796 ppb	109,095.310 ppb	1,509.462 ppb	22,631.236 ppb	209,827.556 ppb	192.988 %
Concentration per Run 1	140.468 %	126.701 %	0.029 ppb	795,362.362 ppb	109,141.597 ppb	1,535.604 ppb	23,031.993 ppb	213,576.319 ppb	188.072 %
Concentration per Run 2	146.377 %	122.805 %	0.039 ppb	798,608.517 ppb	110,072.048 ppb	1,474.818 ppb	21,665.965 ppb	203,217.469 ppb	195.305 %
Concentration per Run 3	146.842 %	132.369 %	0.037 ppb	794,286.509 ppb	108,072.284 ppb	1,517.964 ppb	23,195.751 ppb	212,688.879 ppb	195.586 %
Concentration RSD	2.5 %	3.8 %	14.2 %	0.3 %	0.9 %	2.1 %	3.7 %	2.7 %	2.2 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	3.217 ppb	3.993 ppb	1,282.774 ppb	2,190.379 ppb	11.209 ppb	9.009 ppb	11.892 ppb	50.580 ppb	112.406 %
Concentration per Run 1	3.297 ppb	4.031 ppb	1,282.091 ppb	2,183.345 ppb	11.094 ppb	8.909 ppb	11.775 ppb	50.614 ppb	112.983 %
Concentration per Run 2	3.190 ppb	4.077 ppb	1,266.724 ppb	2,209.661 ppb	11.549 ppb	9.266 ppb	12.065 ppb	51.132 ppb	108.904 %
Concentration per Run 3	3.163 ppb	3.871 ppb	1,299.507 ppb	2,178.130 ppb	10.985 ppb	8.853 ppb	11.835 ppb	49.993 ppb	115.332 %
Concentration RSD	2.2 %	2.7 %	1.3 %	0.8 %	2.7 %	2.5 %	1.3 %	1.1 %	2.9 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.531 ppb	0.678 ppb	929.689 ppb	7.293 ppb	100.903 %	0.071 ppb	0.324 ppb	103.491 %	0.352 ppb
Concentration per Run 1	0.519 ppb	0.640 ppb	939.470 ppb	7.046 ppb	99.731 %	0.067 ppb	0.336 ppb	104.468 %	0.286 ppb
Concentration per Run 2	0.538 ppb	0.688 ppb	901.607 ppb	7.314 ppb	100.101 %	0.075 ppb	0.309 ppb	98.054 %	0.356 ppb
Concentration per Run 3	0.537 ppb	0.705 ppb	947.991 ppb	7.520 ppb	102.876 %	0.072 ppb	0.326 ppb	107.951 %	0.414 ppb
Concentration RSD	2.0 %	5.0 %	2.7 %	3.3 %	1.7 %	5.6 %	4.2 %	4.9 %	18.1 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	414.089 ppb	98.471 %	95.402 %	0.124 ppb	1.587 ppb	73.950 %
Concentration per Run 1	412.827 ppb	97.520 %	95.928 %	0.098 ppb	1.565 ppb	74.783 %
Concentration per Run 2	413.549 ppb	97.966 %	92.706 %	0.139 ppb	1.619 ppb	72.358 %
Concentration per Run 3	415.890 ppb	99.929 %	97.573 %	0.135 ppb	1.576 ppb	74.709 %
Concentration RSD	0.4 %	1.3 %	2.6 %	18.2 %	1.8 %	1.9 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 25 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452357-01D10 6020TL Rack: 1
 Analysis started at: 9/23/2024 3:19:02 PM Vial: 19

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	138.708 %	139.554 %	0.006 ppb	73,686.665 ppb	10,383.255 ppb	143.522 ppb	2,284.820 ppb	24,564.945 ppb	167.375 %
Concentration per Run 1	137.749 %	141.629 %	0.009 ppb	72,258.605 ppb	10,173.977 ppb	136.862 ppb	2,193.877 ppb	23,598.123 ppb	166.573 %
Concentration per Run 2	139.019 %	138.593 %	0.005 ppb	74,431.416 ppb	10,508.284 ppb	145.675 ppb	2,290.623 ppb	24,584.796 ppb	167.967 %
Concentration per Run 3	139.355 %	138.441 %	0.006 ppb	74,369.974 ppb	10,467.503 ppb	148.029 ppb	2,369.960 ppb	25,511.914 ppb	167.585 %
Concentration RSD	0.6 %	1.3 %	30.0 %	1.7 %	1.8 %	4.1 %	3.9 %	3.9 %	0.4 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.585 ppb	0.570 ppb	151.533 ppb	229.344 ppb	1.087 ppb	0.692 ppb	1.332 ppb	5.939 ppb	131.037 %
Concentration per Run 1	0.558 ppb	0.556 ppb	144.455 ppb	219.371 ppb	1.028 ppb	0.665 ppb	1.329 ppb	5.611 ppb	135.982 %
Concentration per Run 2	0.572 ppb	0.565 ppb	153.916 ppb	235.348 ppb	1.106 ppb	0.659 ppb	1.371 ppb	6.083 ppb	127.556 %
Concentration per Run 3	0.626 ppb	0.589 ppb	156.228 ppb	233.312 ppb	1.127 ppb	0.753 ppb	1.296 ppb	6.124 ppb	129.573 %
Concentration RSD	6.2 %	3.0 %	4.1 %	3.8 %	4.8 %	7.6 %	2.8 %	4.8 %	3.4 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.062 ppb	0.108 ppb	85.834 ppb	1.149 ppb	122.849 %	0.011 ppb	0.039 ppb	124.294 %	0.148 ppb
Concentration per Run 1	0.062 ppb	0.071 ppb	80.164 ppb	0.872 ppb	128.813 %	0.011 ppb	0.033 ppb	130.846 %	0.104 ppb
Concentration per Run 2	0.060 ppb	0.135 ppb	88.933 ppb	1.169 ppb	119.996 %	0.012 ppb	0.047 ppb	120.827 %	0.152 ppb
Concentration per Run 3	0.064 ppb	0.119 ppb	88.403 ppb	1.408 ppb	119.737 %	0.009 ppb	0.039 ppb	121.209 %	0.186 ppb
Concentration RSD	2.9 %	30.7 %	5.7 %	23.4 %	4.2 %	14.9 %	18.0 %	4.6 %	28.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	39.035 ppb	118.666 %	115.930 %	0.036 ppb	0.138 ppb	107.534 %
Concentration per Run 1	36.304 ppb	124.684 %	121.042 %	0.019 ppb	0.125 ppb	115.531 %
Concentration per Run 2	40.521 ppb	115.399 %	113.764 %	0.044 ppb	0.144 ppb	104.073 %
Concentration per Run 3	40.281 ppb	115.916 %	112.984 %	0.046 ppb	0.145 ppb	102.997 %
Concentration RSD	6.1 %	4.4 %	3.8 %	42.1 %	8.2 %	6.5 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 26 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: CCV Rack: 0
 Analysis started at: 9/23/2024 3:24:22 PM Vial: 9

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	129.231 %	135.118 %	55.205 ppb	5,862.669 ppb	6,032.643 ppb	58.731 ppb	6,110.666 ppb	6,000.244 ppb	152.118 %
Concentration per Run 1	128.590 %	131.357 %	55.176 ppb	5,876.106 ppb	5,978.666 ppb	57.993 ppb	6,131.542 ppb	5,940.765 ppb	150.407 %
Concentration per Run 2	129.371 %	133.482 %	55.196 ppb	5,787.118 ppb	5,886.204 ppb	56.442 ppb	6,033.909 ppb	5,894.431 ppb	152.051 %
Concentration per Run 3	129.732 %	140.516 %	55.242 ppb	5,924.783 ppb	6,233.060 ppb	61.758 ppb	6,166.546 ppb	6,165.535 ppb	153.896 %
Recovery Percentage 1			92.008 %	97.711 %	100.544 %	97.885 %	101.844 %	100.004 %	
Concentration RSD	0.5 %	3.5 %	0.1 %	1.2 %	3.0 %	4.7 %	1.1 %	2.4 %	1.1 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	54.957 ppb	54.179 ppb	56.577 ppb	5,625.450 ppb	56.889 ppb	57.230 ppb	57.241 ppb	57.626 ppb	128.191 %
Concentration per Run 1	55.530 ppb	55.379 ppb	56.464 ppb	5,624.673 ppb	57.684 ppb	58.054 ppb	59.026 ppb	58.280 ppb	123.980 %
Concentration per Run 2	54.660 ppb	54.009 ppb	55.895 ppb	5,668.318 ppb	57.373 ppb	58.019 ppb	57.080 ppb	57.568 ppb	125.910 %
Concentration per Run 3	54.680 ppb	53.149 ppb	57.371 ppb	5,583.358 ppb	55.608 ppb	55.619 ppb	55.618 ppb	57.029 ppb	134.683 %
Recovery Percentage 1	91.595 %	90.298 %	94.294 %	93.757 %	94.815 %	95.384 %	95.402 %	96.043 %	
Concentration RSD	0.9 %	2.1 %	1.3 %	0.8 %	2.0 %	2.4 %	3.0 %	1.1 %	4.4 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	56.931 ppb	58.217 ppb	58.225 ppb	60.513 ppb	121.548 %	58.234 ppb	57.184 ppb	122.694 %	57.658 ppb
Concentration per Run 1	57.101 ppb	57.216 ppb	57.096 ppb	61.322 ppb	119.912 %	58.848 ppb	57.931 ppb	117.571 %	58.019 ppb
Concentration per Run 2	57.076 ppb	57.420 ppb	56.715 ppb	60.078 ppb	119.503 %	58.694 ppb	57.541 ppb	120.185 %	57.670 ppb
Concentration per Run 3	56.615 ppb	60.016 ppb	60.863 ppb	60.139 ppb	125.228 %	57.160 ppb	56.078 ppb	130.325 %	57.283 ppb
Recovery Percentage 1	94.884 %	97.029 %	97.041 %	100.855 %		97.057 %	95.306 %		96.096 %
Concentration RSD	0.5 %	2.7 %	3.9 %	1.2 %	2.6 %	1.6 %	1.7 %	5.5 %	0.6 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	58.515 ppb	114.992 %	113.247 %	59.682 ppb	56.941 ppb	110.948 %
Concentration per Run 1	58.580 ppb	112.532 %	110.015 %	59.524 ppb	56.523 ppb	110.544 %
Concentration per Run 2	57.714 ppb	115.381 %	112.306 %	60.191 ppb	57.639 ppb	110.492 %
Concentration per Run 3	59.251 ppb	117.064 %	117.419 %	59.331 ppb	56.661 ppb	111.810 %
Recovery Percentage 1	97.525 %			99.470 %	94.901 %	
Concentration RSD	1.3 %	2.0 %	3.3 %	0.8 %	1.1 %	0.7 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 27 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
Analysis label: CCB Rack: 0
Analysis started at: 9/23/2024 3:29:03 PM Vial: 10

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	128.241 %	134.140 %	0.001 ppb	28.765 ppb	-2.009 ppb	-0.472 ppb	-0.257 ppb	-1.006 ppb	138.135 %
Concentration per Run 1	125.420 %	130.496 %	0.006 ppb	30.069 ppb	-1.942 ppb	-0.464 ppb	-0.710 ppb	-2.012 ppb	136.882 %
Concentration per Run 2	128.677 %	133.077 %	-0.002 ppb	27.978 ppb	-2.041 ppb	-0.502 ppb	-0.742 ppb	-0.536 ppb	136.580 %
Concentration per Run 3	130.627 %	138.846 %	-0.003 ppb	28.246 ppb	-2.044 ppb	-0.449 ppb	0.683 ppb	-0.469 ppb	140.943 %
Recovery Percentage 1			0.140 %	28.765 %	-2.870 %	-4.717 %	-0.257 %	-1.006 %	
Concentration RSD	2.1 %	3.2 %	681.6 %	4.0 %	2.9 %	5.8 %	317.1 %	86.7 %	1.8 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.028 ppb	-0.015 ppb	0.005 ppb	12.842 ppb	0.001 ppb	0.300 ppb	0.002 ppb	-0.227 ppb	126.581 %
Concentration per Run 1	0.025 ppb	-0.008 ppb	-0.009 ppb	10.486 ppb	0.001 ppb	0.361 ppb	0.020 ppb	-0.203 ppb	119.276 %
Concentration per Run 2	0.028 ppb	-0.019 ppb	0.007 ppb	13.312 ppb	0.000 ppb	0.236 ppb	-0.035 ppb	-0.249 ppb	130.358 %
Concentration per Run 3	0.031 ppb	-0.017 ppb	0.018 ppb	14.729 ppb	0.002 ppb	0.303 ppb	0.022 ppb	-0.229 ppb	130.108 %
Recovery Percentage 1	0.558 %	-1.470 %	0.497 %	25.685 %	0.270 %	15.003 %	0.212 %	-4.538 %	
Concentration RSD	10.8 %	37.2 %	272.6 %	16.8 %	66.1 %	20.8 %	1,522.1 %	10.1 %	5.0 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.048 ppb	0.184 ppb	0.000 ppb	1.656 ppb	123.295 %	0.004 ppb	0.003 ppb	124.636 %	0.202 ppb
Concentration per Run 1	0.066 ppb	0.181 ppb	-0.001 ppb	1.232 ppb	118.838 %	0.004 ppb	0.004 ppb	118.171 %	0.128 ppb
Concentration per Run 2	0.036 ppb	0.202 ppb	0.000 ppb	1.716 ppb	124.297 %	0.004 ppb	0.002 ppb	127.285 %	0.205 ppb
Concentration per Run 3	0.041 ppb	0.168 ppb	0.001 ppb	2.020 ppb	126.750 %	0.004 ppb	0.002 ppb	128.452 %	0.272 ppb
Recovery Percentage 1	9.578 %	3.680 %	0.001 %	82.801 %		0.988 %	1.436 %		5.045 %
Concentration RSD	33.4 %	9.3 %	669.7 %	24.0 %	3.3 %	9.7 %	40.7 %	4.5 %	35.6 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.007 ppb	115.158 %	114.073 %	0.294 ppb	0.007 ppb	112.028 %
Concentration per Run 1	0.006 ppb	111.303 %	108.768 %	0.276 ppb	0.009 ppb	110.747 %
Concentration per Run 2	0.006 ppb	117.459 %	115.974 %	0.333 ppb	0.007 ppb	110.778 %
Concentration per Run 3	0.009 ppb	116.713 %	117.477 %	0.273 ppb	0.005 ppb	114.560 %
Recovery Percentage 1	1.387 %			29.387 %	0.704 %	
Concentration RSD	26.5 %	2.9 %	4.1 %	11.5 %	32.4 %	2.0 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 28 User name: ALPHALAB\Metals-Instrument Comment: fb
 Analysis label: I2453005-04 6020TL Rack: 1
 Analysis started at: 9/23/2024 3:36:37 PM Vial: 16

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	127.823 %	128.658 %	-0.007 ppb	20.038 ppb	-0.688 ppb	1.296 ppb	-3.014 ppb	19.910 ppb	139.263 %
Concentration per Run 1	126.316 %	123.361 %	-0.011 ppb	20.545 ppb	-0.412 ppb	1.266 ppb	-3.066 ppb	19.166 ppb	137.544 %
Concentration per Run 2	128.105 %	129.434 %	-0.005 ppb	20.993 ppb	-0.868 ppb	1.325 ppb	-1.332 ppb	20.404 ppb	138.852 %
Concentration per Run 3	129.049 %	133.178 %	-0.004 ppb	18.577 ppb	-0.784 ppb	1.299 ppb	-4.643 ppb	20.161 ppb	141.392 %
Concentration RSD	1.1 %	3.9 %	52.2 %	6.4 %	35.3 %	2.3 %	55.0 %	3.3 %	1.4 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	-0.009 ppb	0.000 ppb	-0.046 ppb	3.294 ppb	-0.001 ppb	-0.347 ppb	-0.045 ppb	-0.207 ppb	122.080 %
Concentration per Run 1	-0.016 ppb	0.004 ppb	-0.049 ppb	1.929 ppb	0.000 ppb	-0.350 ppb	-0.046 ppb	-0.205 ppb	116.817 %
Concentration per Run 2	-0.002 ppb	-0.005 ppb	-0.046 ppb	3.565 ppb	0.001 ppb	-0.344 ppb	-0.042 ppb	-0.211 ppb	123.061 %
Concentration per Run 3	-0.009 ppb	0.000 ppb	-0.044 ppb	4.387 ppb	-0.002 ppb	-0.347 ppb	-0.047 ppb	-0.206 ppb	126.362 %
Concentration RSD	81.6 %	2.537.7 %	4.7 %	38.0 %	234.0 %	0.8 %	5.6 %	1.5 %	4.0 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.006 ppb	0.022 ppb	0.077 ppb	0.443 ppb	120.591 %	-0.001 ppb	0.000 ppb	119.524 %	0.089 ppb
Concentration per Run 1	0.009 ppb	-0.010 ppb	0.076 ppb	0.284 ppb	118.407 %	0.000 ppb	0.000 ppb	116.042 %	0.052 ppb
Concentration per Run 2	0.011 ppb	0.051 ppb	0.079 ppb	0.457 ppb	119.770 %	-0.001 ppb	0.001 ppb	119.526 %	0.095 ppb
Concentration per Run 3	-0.003 ppb	0.025 ppb	0.076 ppb	0.588 ppb	123.595 %	-0.001 ppb	0.000 ppb	123.004 %	0.119 ppb
Concentration RSD	140.3 %	137.6 %	2.0 %	34.4 %	2.2 %	76.8 %	124.6 %	2.9 %	38.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.079 ppb	111.370 %	110.692 %	0.053 ppb	-0.014 ppb	112.934 %
Concentration per Run 1	0.079 ppb	109.158 %	107.110 %	0.035 ppb	-0.013 ppb	111.352 %
Concentration per Run 2	0.079 ppb	109.413 %	109.518 %	0.063 ppb	-0.013 ppb	112.305 %
Concentration per Run 3	0.078 ppb	115.538 %	115.448 %	0.061 ppb	-0.015 ppb	115.145 %
Concentration RSD	1.0 %	3.2 %	3.9 %	29.6 %	8.1 %	1.7 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 29 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2453058-01 6020TL Rack: 1
 Analysis started at: 9/23/2024 3:41:15 PM Vial: 8

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	125.071 %	128.371 %	-0.005 ppb	2,404.171 ppb	3,025.695 ppb	2,514 ppb	1,696.331 ppb	18,129.599 ppb	137.124 %
Concentration per Run 1	122.659 %	125.638 %	-0.008 ppb	2,452.351 ppb	3,082.622 ppb	2,822 ppb	1,724.470 ppb	18,321.350 ppb	135.672 %
Concentration per Run 2	126.357 %	128.067 %	-0.004 ppb	2,390.772 ppb	3,020.764 ppb	2,379 ppb	1,655.227 ppb	17,990.270 ppb	137.971 %
Concentration per Run 3	126.196 %	131.407 %	-0.002 ppb	2,369.390 ppb	2,973.699 ppb	2,342 ppb	1,709.298 ppb	18,077.176 ppb	137.730 %
Concentration RSD	1.7 %	2.3 %	55.7 %	1.8 %	1.8 %	10.6 %	2.1 %	0.9 %	0.9 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.211 ppb	0.543 ppb	52.521 ppb	83.688 ppb	0.171 ppb	-0.187 ppb	0.586 ppb	0.987 ppb	121.515 %
Concentration per Run 1	0.221 ppb	0.544 ppb	52.258 ppb	83.977 ppb	0.171 ppb	-0.182 ppb	0.593 ppb	1.000 ppb	120.465 %
Concentration per Run 2	0.212 ppb	0.549 ppb	53.110 ppb	86.143 ppb	0.172 ppb	-0.202 ppb	0.596 ppb	0.986 ppb	123.012 %
Concentration per Run 3	0.200 ppb	0.535 ppb	52.194 ppb	80.945 ppb	0.170 ppb	-0.178 ppb	0.569 ppb	0.975 ppb	121.068 %
Concentration RSD	5.0 %	1.3 %	1.0 %	3.1 %	0.6 %	6.9 %	2.5 %	1.3 %	1.1 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.130 ppb	0.352 ppb	52.124 ppb	0.436 ppb	117.578 %	0.002 ppb	0.002 ppb	118.025 %	0.082 ppb
Concentration per Run 1	0.124 ppb	0.327 ppb	52.349 ppb	0.347 ppb	115.671 %	0.003 ppb	0.004 ppb	117.663 %	0.056 ppb
Concentration per Run 2	0.142 ppb	0.342 ppb	51.814 ppb	0.417 ppb	117.962 %	0.001 ppb	0.001 ppb	117.995 %	0.086 ppb
Concentration per Run 3	0.125 ppb	0.386 ppb	52.210 ppb	0.546 ppb	119.102 %	0.001 ppb	0.001 ppb	118.418 %	0.106 ppb
Concentration RSD	7.6 %	8.7 %	0.5 %	23.1 %	1.5 %	63.4 %	97.3 %	0.3 %	30.7 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	21.629 ppb	111.617 %	111.028 %	0.036 ppb	0.034 ppb	110.058 %
Concentration per Run 1	21.463 ppb	110.613 %	108.775 %	0.021 ppb	0.033 ppb	109.422 %
Concentration per Run 2	21.670 ppb	111.926 %	112.819 %	0.044 ppb	0.036 ppb	109.708 %
Concentration per Run 3	21.755 ppb	112.312 %	111.491 %	0.044 ppb	0.032 ppb	111.045 %
Concentration RSD	0.7 %	0.8 %	1.9 %	37.3 %	5.4 %	0.8 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 30 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1973497-7d10 6020TL Rack: 1
 Analysis started at: 9/23/2024 3:45:54 PM Vial: 9

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	127.956 %	134.291 %	5.010 ppb	1,319.474 ppb	1,314.589 ppb	198.160 ppb	1,197.429 ppb	2,687.249 ppb	140.540 %
Concentration per Run 1	125.993 %	135.810 %	5.110 ppb	1,325.112 ppb	1,307.889 ppb	198.612 ppb	1,211.046 ppb	2,731.983 ppb	137.603 %
Concentration per Run 2	128.872 %	129.940 %	5.045 ppb	1,344.522 ppb	1,335.784 ppb	200.939 ppb	1,208.966 ppb	2,651.659 ppb	142.567 %
Concentration per Run 3	129.004 %	137.125 %	4.876 ppb	1,288.788 ppb	1,300.095 ppb	194.929 ppb	1,172.275 ppb	2,678.106 ppb	141.449 %
Concentration RSD	1.3 %	2.8 %	2.4 %	2.1 %	1.4 %	1.5 %	1.8 %	1.5 %	1.9 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	47.347 ppb	19.065 ppb	54.793 ppb	110.956 ppb	50.366 ppb	51.245 ppb	25.815 ppb	52.465 ppb	124.320 %
Concentration per Run 1	47.186 ppb	19.202 ppb	55.474 ppb	112.939 ppb	51.642 ppb	51.981 ppb	26.255 ppb	53.202 ppb	121.301 %
Concentration per Run 2	47.701 ppb	18.991 ppb	53.570 ppb	110.826 ppb	49.323 ppb	50.504 ppb	25.317 ppb	51.937 ppb	126.086 %
Concentration per Run 3	47.152 ppb	19.001 ppb	55.336 ppb	109.103 ppb	50.134 ppb	51.250 ppb	25.874 ppb	52.257 ppb	125.573 %
Concentration RSD	0.6 %	0.6 %	1.9 %	1.7 %	2.3 %	1.4 %	1.8 %	1.3 %	2.1 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	12.145 ppb	12.174 ppb	101.557 ppb	102.093 ppb	120.316 %	4.958 ppb	5.430 ppb	118.127 %	40.413 ppb
Concentration per Run 1	12.486 ppb	12.205 ppb	103.753 ppb	103.510 ppb	117.569 %	5.030 ppb	5.503 ppb	115.334 %	41.622 ppb
Concentration per Run 2	11.893 ppb	12.113 ppb	100.406 ppb	101.966 ppb	121.015 %	4.910 ppb	5.466 ppb	120.411 %	39.651 ppb
Concentration per Run 3	12.055 ppb	12.205 ppb	100.513 ppb	100.802 ppb	122.365 %	4.934 ppb	5.322 ppb	118.637 %	39.966 ppb
Concentration RSD	2.5 %	0.4 %	1.9 %	1.3 %	2.1 %	1.3 %	1.8 %	2.2 %	2.6 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	212.082 ppb	112.080 %	111.096 %	12.742 ppb	52.396 ppb	111.252 %
Concentration per Run 1	214.915 ppb	109.896 %	108.851 %	12.449 ppb	51.556 ppb	111.847 %
Concentration per Run 2	209.504 ppb	113.215 %	111.763 %	12.877 ppb	52.946 ppb	110.870 %
Concentration per Run 3	211.827 ppb	113.129 %	112.674 %	12.900 ppb	52.686 ppb	111.038 %
Concentration RSD	1.3 %	1.7 %	1.8 %	2.0 %	1.4 %	0.5 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 31 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1973497-8d10 6020TL Rack: 1
 Analysis started at: 9/23/2024 3:50:34 PM Vial: 10

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	126.454 %	130.631 %	5.203 ppb	1,366.509 ppb	1,368.559 ppb	206.333 ppb	1,244.522 ppb	2,751.311 ppb	139.509 %
Concentration per Run 1	123.956 %	129.282 %	5.194 ppb	1,384.736 ppb	1,369.887 ppb	208.164 ppb	1,248.700 ppb	2,743.532 ppb	138.442 %
Concentration per Run 2	128.375 %	128.573 %	5.279 ppb	1,372.879 ppb	1,383.819 ppb	207.554 ppb	1,238.496 ppb	2,745.873 ppb	140.383 %
Concentration per Run 3	127.031 %	134.038 %	5.136 ppb	1,341.911 ppb	1,351.972 ppb	203.280 ppb	1,246.371 ppb	2,764.528 ppb	139.701 %
Concentration RSD	1.8 %	2.3 %	1.4 %	1.6 %	1.2 %	1.3 %	0.4 %	0.4 %	0.7 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	48.370 ppb	19.415 ppb	55.996 ppb	113.509 ppb	51.708 ppb	52.265 ppb	26.407 ppb	53.311 ppb	125.372 %
Concentration per Run 1	49.067 ppb	19.560 ppb	56.710 ppb	114.510 ppb	52.028 ppb	52.081 ppb	26.496 ppb	53.424 ppb	123.534 %
Concentration per Run 2	48.147 ppb	19.366 ppb	55.748 ppb	111.697 ppb	51.946 ppb	52.598 ppb	26.530 ppb	53.519 ppb	126.126 %
Concentration per Run 3	47.895 ppb	19.319 ppb	55.530 ppb	114.321 ppb	51.151 ppb	52.117 ppb	26.195 ppb	52.989 ppb	126.457 %
Concentration RSD	1.3 %	0.7 %	1.1 %	1.4 %	0.9 %	0.6 %	0.7 %	0.5 %	1.3 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	12.427 ppb	12.418 ppb	103.767 ppb	108.764 ppb	120.142 %	5.055 ppb	5.535 ppb	118.335 %	42.314 ppb
Concentration per Run 1	12.482 ppb	12.333 ppb	103.634 ppb	108.853 ppb	118.789 %	5.022 ppb	5.532 ppb	116.428 %	42.881 ppb
Concentration per Run 2	12.383 ppb	12.470 ppb	103.980 ppb	107.821 ppb	120.694 %	5.071 ppb	5.615 ppb	118.195 %	42.033 ppb
Concentration per Run 3	12.417 ppb	12.450 ppb	103.685 ppb	109.619 ppb	120.945 %	5.072 ppb	5.458 ppb	120.383 %	42.030 ppb
Concentration RSD	0.4 %	0.6 %	0.2 %	0.8 %	1.0 %	0.6 %	1.4 %	1.7 %	1.2 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	214.933 ppb	112.046 %	110.711 %	13.174 ppb	53.863 ppb	110.199 %
Concentration per Run 1	217.436 ppb	110.880 %	109.627 %	12.833 ppb	52.727 ppb	111.527 %
Concentration per Run 2	213.887 ppb	113.000 %	111.222 %	13.305 ppb	54.751 ppb	109.025 %
Concentration per Run 3	213.474 ppb	112.258 %	111.284 %	13.386 ppb	54.110 ppb	110.047 %
Concentration RSD	1.0 %	1.0 %	0.8 %	2.3 %	1.9 %	1.1 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 32 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1973497-9d10 6020TL Rack: 1
 Analysis started at: 9/23/2024 3:55:14 PM Vial: 11

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	120.087 %	129.231 %	47.559 ppb	4,837.686 ppb	4,994.115 ppb	45.907 ppb	4,828.364 ppb	6,402.942 ppb	140.724 %
Concentration per Run 1	119.013 %	127.511 %	47.710 ppb	4,664.316 ppb	4,765.077 ppb	42.659 ppb	4,573.120 ppb	6,080.938 ppb	139.926 %
Concentration per Run 2	121.071 %	130.091 %	47.497 ppb	4,933.044 ppb	5,155.121 ppb	47.328 ppb	4,997.459 ppb	6,620.395 ppb	142.338 %
Concentration per Run 3	120.177 %	130.091 %	47.470 ppb	4,915.698 ppb	5,062.146 ppb	47.735 ppb	4,914.512 ppb	6,507.492 ppb	139.909 %
Concentration RSD	0.9 %	1.2 %	0.3 %	3.1 %	4.1 %	6.1 %	4.7 %	4.4 %	1.0 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	44.750 ppb	43.816 ppb	49.458 ppb	4,532.219 ppb	46.793 ppb	46.746 ppb	46.925 ppb	47.975 ppb	120.674 %
Concentration per Run 1	42.979 ppb	42.440 ppb	46.495 ppb	4,382.420 ppb	46.204 ppb	46.386 ppb	46.468 ppb	46.896 ppb	119.802 %
Concentration per Run 2	45.161 ppb	43.983 ppb	50.629 ppb	4,543.307 ppb	46.800 ppb	46.552 ppb	46.612 ppb	48.447 ppb	121.536 %
Concentration per Run 3	46.109 ppb	45.024 ppb	51.250 ppb	4,670.929 ppb	47.376 ppb	47.300 ppb	47.693 ppb	48.582 ppb	120.683 %
Concentration RSD	3.6 %	3.0 %	5.2 %	3.2 %	1.3 %	1.0 %	1.4 %	2.0 %	0.7 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	46.499 ppb	45.895 ppb	49.859 ppb	50.219 ppb	117.272 %	1.621 ppb	46.250 ppb	115.483 %	48.768 ppb
Concentration per Run 1	44.402 ppb	42.643 ppb	46.738 ppb	47.633 ppb	119.517 %	1.561 ppb	44.397 ppb	115.754 %	46.583 ppb
Concentration per Run 2	47.433 ppb	47.241 ppb	51.509 ppb	50.871 ppb	116.272 %	1.653 ppb	47.515 ppb	115.572 %	49.906 ppb
Concentration per Run 3	47.663 ppb	47.799 ppb	51.331 ppb	52.153 ppb	116.026 %	1.650 ppb	46.839 ppb	115.124 %	49.815 ppb
Concentration RSD	3.9 %	6.2 %	5.4 %	4.6 %	1.7 %	3.2 %	3.5 %	0.3 %	3.9 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	49.393 ppb	112.180 %	111.048 %	47.016 ppb	44.801 ppb	113.431 %
Concentration per Run 1	46.256 ppb	114.948 %	112.759 %	43.673 ppb	41.690 ppb	118.614 %
Concentration per Run 2	50.961 ppb	110.622 %	108.786 %	48.610 ppb	46.372 ppb	110.810 %
Concentration per Run 3	50.961 ppb	110.970 %	111.598 %	48.765 ppb	46.341 ppb	110.867 %
Concentration RSD	5.5 %	2.1 %	1.8 %	6.2 %	6.0 %	4.0 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 33 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1973497-10d5 6020TL Rack: 1
 Analysis started at: 9/23/2024 3:59:54 PM Vial: 12

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	121.820 %	124.390 %	-0.006 ppb	492.149 ppb	614.993 ppb	0.582 ppb	331.118 ppb	3,596.598 ppb	132.577 %
Concentration per Run 1	119.487 %	118.706 %	-0.002 ppb	487.386 ppb	608.317 ppb	0.513 ppb	325.632 ppb	3,507.176 ppb	130.729 %
Concentration per Run 2	123.231 %	126.650 %	-0.007 ppb	497.628 ppb	620.184 ppb	0.753 ppb	328.655 ppb	3,654.247 ppb	133.605 %
Concentration per Run 3	122.741 %	127.814 %	-0.009 ppb	491.434 ppb	616.480 ppb	0.480 ppb	339.067 ppb	3,628.372 ppb	133.397 %
Concentration RSD	1.7 %	4.0 %	58.9 %	1.0 %	1.0 %	25.6 %	2.1 %	2.2 %	1.2 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.063 ppb	0.105 ppb	10.504 ppb	27.272 ppb	0.038 ppb	-0.160 ppb	0.047 ppb	0.034 ppb	119.179 %
Concentration per Run 1	0.046 ppb	0.112 ppb	10.540 ppb	26.100 ppb	0.042 ppb	-0.150 ppb	0.046 ppb	0.022 ppb	114.060 %
Concentration per Run 2	0.069 ppb	0.098 ppb	10.413 ppb	28.834 ppb	0.030 ppb	-0.186 ppb	0.035 ppb	0.071 ppb	120.156 %
Concentration per Run 3	0.074 ppb	0.106 ppb	10.558 ppb	26.880 ppb	0.040 ppb	-0.145 ppb	0.058 ppb	0.009 ppb	123.320 %
Concentration RSD	23.9 %	6.6 %	0.8 %	5.2 %	16.7 %	14.1 %	24.2 %	97.6 %	3.9 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.063 ppb	0.224 ppb	10.252 ppb	2.568 ppb	116.124 %	-0.001 ppb	0.003 ppb	114.498 %	1.157 ppb
Concentration per Run 1	0.048 ppb	0.235 ppb	10.013 ppb	1.918 ppb	113.903 %	-0.001 ppb	0.004 ppb	108.331 %	0.958 ppb
Concentration per Run 2	0.074 ppb	0.223 ppb	10.368 ppb	2.613 ppb	116.469 %	0.000 ppb	0.004 ppb	115.981 %	1.188 ppb
Concentration per Run 3	0.066 ppb	0.216 ppb	10.376 ppb	3.174 ppb	118.001 %	-0.001 ppb	0.002 ppb	119.182 %	1.324 ppb
Concentration RSD	20.7 %	4.3 %	2.0 %	24.5 %	1.8 %	65.6 %	43.1 %	4.9 %	16.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	4.331 ppb	111.404 %	109.081 %	0.260 ppb	0.014 ppb	111.726 %
Concentration per Run 1	4.308 ppb	108.514 %	104.608 %	0.238 ppb	0.015 ppb	109.499 %
Concentration per Run 2	4.373 ppb	111.258 %	109.963 %	0.296 ppb	0.015 ppb	112.219 %
Concentration per Run 3	4.311 ppb	114.439 %	112.672 %	0.245 ppb	0.012 ppb	113.460 %
Concentration RSD	0.8 %	2.7 %	3.8 %	12.4 %	10.6 %	1.8 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 34 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2453005-02 6020TL Rack: 1
 Analysis started at: 9/23/2024 4:04:34 PM Vial: 14

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	125.340 %	132.487 %	0.054 ppb	47,365.176 ppb	6,016.195 ppb	651.308 ppb	12,736.268 ppb	75,733.721 ppb	164.369 %
Concentration per Run 1	123.264 %	137.125 %	0.048 ppb	44,603.056 ppb	5,671.638 ppb	610.831 ppb	12,096.557 ppb	71,917.858 ppb	163.734 %
Concentration per Run 2	126.380 %	129.535 %	0.058 ppb	48,917.582 ppb	6,184.913 ppb	665.768 ppb	13,006.797 ppb	76,804.471 ppb	163.935 %
Concentration per Run 3	126.375 %	130.800 %	0.056 ppb	48,574.890 ppb	6,192.034 ppb	677.324 ppb	13,105.451 ppb	78,478.835 ppb	165.438 %
Concentration RSD	1.4 %	3.1 %	9.3 %	5.1 %	5.0 %	5.5 %	4.4 %	4.5 %	0.6 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	5.120 ppb	2.819 ppb	658.918 ppb	12,999.435 ppb	3.490 ppb	52.607 ppb	4.728 ppb	15.260 ppb	123.458 %
Concentration per Run 1	4.788 ppb	2.649 ppb	623.236 ppb	12,265.903 ppb	3.281 ppb	49.191 ppb	4.241 ppb	14.247 ppb	127.094 %
Concentration per Run 2	5.180 ppb	2.888 ppb	667.113 ppb	13,166.143 ppb	3.574 ppb	53.895 ppb	4.944 ppb	15.719 ppb	122.085 %
Concentration per Run 3	5.392 ppb	2.921 ppb	686.404 ppb	13,566.260 ppb	3.616 ppb	54.735 ppb	4.999 ppb	15.813 ppb	121.195 %
Concentration RSD	6.0 %	5.3 %	4.9 %	5.1 %	5.2 %	5.7 %	8.9 %	5.8 %	2.6 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	111.900 ppb	0.346 ppb	318.030 ppb	6.789 ppb	114.422 %	0.006 ppb	0.043 ppb	118.543 %	0.881 ppb
Concentration per Run 1	105.976 ppb	0.292 ppb	294.211 ppb	6.162 ppb	119.083 %	0.004 ppb	0.041 ppb	122.427 %	0.752 ppb
Concentration per Run 2	113.972 ppb	0.368 ppb	327.804 ppb	6.908 ppb	111.877 %	0.008 ppb	0.046 ppb	117.361 %	0.894 ppb
Concentration per Run 3	115.751 ppb	0.378 ppb	332.075 ppb	7.298 ppb	112.307 %	0.007 ppb	0.042 ppb	115.843 %	0.996 ppb
Concentration RSD	4.7 %	13.5 %	6.5 %	8.5 %	3.5 %	33.9 %	5.9 %	2.9 %	13.9 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	196.314 ppb	113.134 %	112.371 %	0.088 ppb	8.004 ppb	104.907 %
Concentration per Run 1	181.627 ppb	118.270 %	117.057 %	0.055 ppb	7.506 ppb	108.501 %
Concentration per Run 2	202.512 ppb	110.717 %	111.050 %	0.102 ppb	7.922 ppb	106.431 %
Concentration per Run 3	204.804 ppb	110.415 %	109.005 %	0.106 ppb	8.583 ppb	99.788 %
Concentration RSD	6.5 %	3.9 %	3.7 %	32.0 %	6.8 %	4.3 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 35 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2453005-03 6020TL Rack: 1
 Analysis started at: 9/23/2024 4:09:11 PM Vial: 15

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	125.941 %	130.783 %	0.040 ppb	51,706.349 ppb	6,545.266 ppb	581.170 ppb	13,627.835 ppb	80,749.165 ppb	153.419 %
Concentration per Run 1	124.984 %	127.713 %	0.044 ppb	53,399.126 ppb	6,766.117 ppb	595.096 ppb	14,086.188 ppb	83,402.658 ppb	151.801 %
Concentration per Run 2	126.679 %	130.193 %	0.038 ppb	51,405.274 ppb	6,432.064 ppb	583.679 ppb	13,205.333 ppb	79,403.929 ppb	154.655 %
Concentration per Run 3	126.161 %	134.443 %	0.038 ppb	50,314.645 ppb	6,437.617 ppb	564.734 ppb	13,591.984 ppb	79,440.909 ppb	153.800 %
Concentration RSD	0.7 %	2.6 %	8.6 %	3.0 %	2.9 %	2.6 %	3.2 %	2.8 %	1.0 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	5.225 ppb	2.612 ppb	690.697 ppb	13,130.374 ppb	3.434 ppb	54.977 ppb	4.382 ppb	16.249 ppb	121.359 %
Concentration per Run 1	5.382 ppb	2.726 ppb	702.665 ppb	13,377.450 ppb	3.527 ppb	56.712 ppb	4.564 ppb	16.964 ppb	115.792 %
Concentration per Run 2	5.214 ppb	2.570 ppb	688.074 ppb	13,087.096 ppb	3.374 ppb	54.666 ppb	4.282 ppb	15.809 ppb	124.526 %
Concentration per Run 3	5.081 ppb	2.541 ppb	681.351 ppb	12,926.577 ppb	3.403 ppb	53.552 ppb	4.300 ppb	15.975 ppb	123.758 %
Concentration RSD	2.9 %	3.8 %	1.6 %	1.7 %	2.4 %	2.9 %	3.6 %	3.8 %	4.0 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	126.738 ppb	0.319 ppb	334.160 ppb	7.300 ppb	112.378 %	0.005 ppb	0.045 ppb	115.073 %	0.767 ppb
Concentration per Run 1	131.350 ppb	0.322 ppb	343.363 ppb	7.494 ppb	109.477 %	0.004 ppb	0.043 ppb	112.238 %	0.716 ppb
Concentration per Run 2	124.243 ppb	0.298 ppb	328.839 ppb	7.121 ppb	113.413 %	0.005 ppb	0.051 ppb	114.893 %	0.775 ppb
Concentration per Run 3	124.621 ppb	0.337 ppb	330.277 ppb	7.285 ppb	114.243 %	0.006 ppb	0.042 ppb	118.089 %	0.809 ppb
Concentration RSD	3.2 %	6.2 %	2.4 %	2.6 %	2.3 %	23.7 %	10.7 %	2.5 %	6.2 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	211.218 ppb	110.828 %	109.819 %	0.056 ppb	7.744 ppb	98.527 %
Concentration per Run 1	213.065 ppb	107.468 %	105.587 %	0.040 ppb	7.816 ppb	96.556 %
Concentration per Run 2	209.982 ppb	112.873 %	110.767 %	0.065 ppb	7.749 ppb	98.745 %
Concentration per Run 3	210.608 ppb	112.142 %	113.103 %	0.063 ppb	7.668 ppb	100.281 %
Concentration RSD	0.8 %	2.6 %	3.5 %	24.3 %	1.0 %	1.9 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 36 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2453058-02 6020TL Rack: 1
 Analysis started at: 9/23/2024 4:13:48 PM Vial: 17

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	127.628 %	136.046 %	-0.008 ppb	13,297.695 ppb	6,054.463 ppb	49.657 ppb	1,524.814 ppb	19,277.934 ppb	141.409 %
Concentration per Run 1	125.726 %	133.583 %	-0.008 ppb	13,174.004 ppb	6,073.550 ppb	49.412 ppb	1,502.708 ppb	19,167.222 ppb	140.002 %
Concentration per Run 2	128.149 %	137.783 %	-0.005 ppb	13,404.088 ppb	6,062.484 ppb	50.008 ppb	1,537.961 ppb	19,447.519 ppb	141.349 %
Concentration per Run 3	129.009 %	136.771 %	-0.010 ppb	13,314.993 ppb	6,027.355 ppb	49.552 ppb	1,533.772 ppb	19,219.061 ppb	142.875 %
Concentration RSD	1.3 %	1.6 %	32.6 %	0.9 %	0.4 %	0.6 %	1.3 %	0.8 %	1.0 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.371 ppb	0.864 ppb	4.001 ppb	93.137 ppb	0.110 ppb	0.115 ppb	0.430 ppb	0.478 ppb	126.777 %
Concentration per Run 1	0.322 ppb	0.860 ppb	3.866 ppb	90.183 ppb	0.103 ppb	0.139 ppb	0.408 ppb	0.491 ppb	125.659 %
Concentration per Run 2	0.396 ppb	0.877 ppb	3.919 ppb	93.367 ppb	0.109 ppb	0.112 ppb	0.440 ppb	0.464 ppb	126.420 %
Concentration per Run 3	0.396 ppb	0.856 ppb	4.217 ppb	95.861 ppb	0.119 ppb	0.093 ppb	0.440 ppb	0.477 ppb	128.252 %
Concentration RSD	11.4 %	1.3 %	4.7 %	3.1 %	7.4 %	20.4 %	4.3 %	2.8 %	1.1 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.246 ppb	0.033 ppb	77.109 ppb	0.934 ppb	119.583 %	0.009 ppb	0.004 ppb	120.345 %	0.268 ppb
Concentration per Run 1	0.210 ppb	0.030 ppb	76.846 ppb	0.707 ppb	118.522 %	0.008 ppb	0.003 ppb	118.910 %	0.213 ppb
Concentration per Run 2	0.260 ppb	0.017 ppb	78.179 ppb	0.946 ppb	119.442 %	0.007 ppb	0.005 ppb	120.875 %	0.277 ppb
Concentration per Run 3	0.268 ppb	0.053 ppb	76.302 ppb	1.148 ppb	120.785 %	0.010 ppb	0.005 ppb	121.250 %	0.314 ppb
Concentration RSD	12.8 %	53.1 %	1.3 %	23.6 %	1.0 %	17.8 %	21.6 %	1.0 %	19.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	16.004 ppb	113.638 %	113.010 %	0.034 ppb	0.090 ppb	105.644 %
Concentration per Run 1	15.834 ppb	113.446 %	112.603 %	0.018 ppb	0.080 ppb	106.102 %
Concentration per Run 2	16.206 ppb	112.218 %	110.365 %	0.038 ppb	0.084 ppb	104.619 %
Concentration per Run 3	15.972 ppb	115.248 %	116.060 %	0.046 ppb	0.106 ppb	106.210 %
Concentration RSD	1.2 %	1.3 %	2.5 %	42.6 %	15.8 %	0.8 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 37 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2453058-03 6020TL Rack: 1
 Analysis started at: 9/23/2024 4:18:25 PM Vial: 18

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	124.908 %	141.629 %	-0.010 ppb	12,683.739 ppb	5,767.170 ppb	190.775 ppb	1,521.839 ppb	19,135.975 ppb	140.224 %
Concentration per Run 1	123.217 %	143.096 %	-0.006 ppb	11,731.490 ppb	5,604.924 ppb	180.413 ppb	1,471.663 ppb	18,384.264 ppb	140.836 %
Concentration per Run 2	126.117 %	146.133 %	-0.011 ppb	13,385.674 ppb	5,805.847 ppb	201.912 ppb	1,590.173 ppb	20,007.353 ppb	140.340 %
Concentration per Run 3	125.390 %	135.658 %	-0.012 ppb	12,934.051 ppb	5,890.740 ppb	190.000 ppb	1,503.681 ppb	19,016.307 ppb	139.495 %
Concentration RSD	1.2 %	3.8 %	36.6 %	6.7 %	2.5 %	5.6 %	4.0 %	4.3 %	0.5 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.444 ppb	0.578 ppb	3.184 ppb	78.219 ppb	0.103 ppb	-0.111 ppb	0.230 ppb	0.313 ppb	126.678 %
Concentration per Run 1	0.411 ppb	0.546 ppb	3.100 ppb	73.517 ppb	0.106 ppb	-0.104 ppb	0.194 ppb	0.287 ppb	125.702 %
Concentration per Run 2	0.493 ppb	0.567 ppb	3.147 ppb	83.985 ppb	0.099 ppb	-0.130 ppb	0.231 ppb	0.339 ppb	132.474 %
Concentration per Run 3	0.427 ppb	0.621 ppb	3.304 ppb	77.154 ppb	0.104 ppb	-0.100 ppb	0.264 ppb	0.313 ppb	121.857 %
Concentration RSD	9.8 %	6.7 %	3.4 %	6.8 %	3.6 %	14.4 %	15.3 %	8.3 %	4.2 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.168 ppb	0.058 ppb	78.735 ppb	0.531 ppb	119.176 %	0.014 ppb	0.006 ppb	122.775 %	0.178 ppb
Concentration per Run 1	0.169 ppb	0.037 ppb	75.443 ppb	0.387 ppb	119.252 %	0.015 ppb	0.005 ppb	119.542 %	0.138 ppb
Concentration per Run 2	0.169 ppb	0.070 ppb	82.872 ppb	0.541 ppb	120.272 %	0.014 ppb	0.005 ppb	129.090 %	0.186 ppb
Concentration per Run 3	0.167 ppb	0.067 ppb	77.891 ppb	0.666 ppb	118.005 %	0.012 ppb	0.006 ppb	119.694 %	0.212 ppb
Concentration RSD	0.6 %	31.1 %	4.8 %	26.3 %	1.0 %	10.2 %	12.3 %	4.5 %	21.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	15.897 ppb	115.720 %	115.251 %	0.021 ppb	0.062 ppb	108.858 %
Concentration per Run 1	15.281 ppb	115.756 %	113.548 %	0.011 ppb	0.059 ppb	110.502 %
Concentration per Run 2	16.338 ppb	117.264 %	118.012 %	0.026 ppb	0.064 ppb	108.999 %
Concentration per Run 3	16.072 ppb	114.140 %	114.193 %	0.027 ppb	0.063 ppb	107.072 %
Concentration RSD	3.5 %	1.4 %	2.1 %	43.2 %	4.3 %	1.6 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 38 User name ALPHALAB\Metals-Instrument Comment <Comment>
Analysis label: CCV Rack 0
Analysis started at: 9/23/2024 4:23:03 PM Vial 9

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	121.334 %	134.140 %	55.193 ppb	5,908.089 ppb	5,977.614 ppb	58.925 ppb	6,063.407 ppb	5,993.546 ppb	133.175 %
Concentration per Run 1	119.382 %	124.930 %	55.831 ppb	6,364.369 ppb	6,468.048 ppb	63.826 ppb	6,271.964 ppb	6,462.901 ppb	131.104 %
Concentration per Run 2	121.955 %	143.856 %	54.937 ppb	5,601.518 ppb	5,675.755 ppb	56.859 ppb	5,993.464 ppb	5,742.207 ppb	134.768 %
Concentration per Run 3	122.664 %	133.634 %	54.811 ppb	5,758.380 ppb	5,789.039 ppb	56.092 ppb	5,924.793 ppb	5,775.530 ppb	133.654 %
Recovery Percentage 1			91.988 %	98.468 %	99.627 %	98.209 %	101.057 %	99.892 %	
Concentration RSD	1.4 %	7.1 %	1.0 %	6.8 %	7.2 %	7.2 %	3.0 %	6.8 %	1.4 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	56.362 ppb	55.838 ppb	57.394 ppb	5,777.906 ppb	58.466 ppb	58.843 ppb	59.137 ppb	59.778 ppb	120.802 %
Concentration per Run 1	60.483 ppb	59.279 ppb	60.917 ppb	6,145.541 ppb	62.138 ppb	62.377 ppb	63.307 ppb	63.416 ppb	115.138 %
Concentration per Run 2	54.440 ppb	54.222 ppb	56.104 ppb	5,590.011 ppb	56.259 ppb	56.374 ppb	56.477 ppb	57.967 ppb	125.598 %
Concentration per Run 3	54.163 ppb	54.011 ppb	55.160 ppb	5,598.167 ppb	57.000 ppb	57.779 ppb	57.628 ppb	57.951 ppb	121.668 %
Recovery Percentage 1	93.937 %	93.063 %	95.656 %	96.298 %	97.443 %	98.072 %	98.562 %	99.630 %	
Concentration RSD	6.3 %	5.3 %	5.4 %	5.5 %	5.5 %	5.3 %	6.2 %	5.3 %	4.4 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	59.333 ppb	60.429 ppb	60.158 ppb	63.142 ppb	115.377 %	60.169 ppb	59.049 ppb	116.045 %	59.722 ppb
Concentration per Run 1	62.874 ppb	64.172 ppb	64.773 ppb	67.711 ppb	110.868 %	63.394 ppb	62.753 ppb	110.918 %	63.664 ppb
Concentration per Run 2	57.872 ppb	59.838 ppb	59.197 ppb	60.598 ppb	118.769 %	58.050 ppb	56.845 ppb	120.790 %	58.100 ppb
Concentration per Run 3	57.254 ppb	57.276 ppb	56.503 ppb	61.116 ppb	116.495 %	59.062 ppb	57.549 ppb	116.428 %	57.402 ppb
Recovery Percentage 1	98.889 %	100.715 %	100.263 %	105.236 %		100.281 %	98.415 %		99.537 %
Concentration RSD	5.2 %	5.8 %	7.0 %	6.3 %	3.5 %	4.7 %	5.5 %	4.3 %	5.7 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	60.502 ppb	110.646 %	109.687 %	63.091 ppb	60.274 ppb	106.084 %
Concentration per Run 1	64.439 ppb	104.139 %	103.505 %	67.313 ppb	64.045 ppb	100.809 %
Concentration per Run 2	59.303 ppb	113.101 %	114.042 %	60.953 ppb	58.735 ppb	107.312 %
Concentration per Run 3	57.765 ppb	114.698 %	111.516 %	61.008 ppb	58.041 ppb	110.132 %
Recovery Percentage 1	100.837 %			105.152 %	100.456 %	
Concentration RSD	5.8 %	5.1 %	5.0 %	5.8 %	5.4 %	4.5 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 39 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
Analysis label: CCB Rack: 0
Analysis started at: 9/23/2024 4:27:45 PM Vial: 10

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	117.324 %	130.749 %	-0.009 ppb	11.371 ppb	-1.927 ppb	-0.472 ppb	-1.009 ppb	-0.418 ppb	125.595 %
Concentration per Run 1	116.936 %	135.810 %	-0.009 ppb	12.197 ppb	-2.211 ppb	-0.456 ppb	-0.188 ppb	-0.222 ppb	125.682 %
Concentration per Run 2	118.002 %	129.029 %	-0.010 ppb	11.323 ppb	-1.871 ppb	-0.477 ppb	-1.355 ppb	-0.728 ppb	124.873 %
Concentration per Run 3	117.034 %	127.409 %	-0.009 ppb	10.593 ppb	-1.700 ppb	-0.483 ppb	-1.485 ppb	-0.303 ppb	126.231 %
Recovery Percentage 1			-1.857 %	11.371 %	-2.753 %	-4.720 %	-1.009 %	-0.418 %	
Concentration RSD	0.5 %	3.4 %	8.2 %	7.1 %	13.5 %	3.0 %	70.8 %	65.1 %	0.5 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.020 ppb	-0.012 ppb	-0.007 ppb	10.025 ppb	0.000 ppb	0.325 ppb	-0.064 ppb	-0.240 ppb	118.925 %
Concentration per Run 1	0.014 ppb	-0.012 ppb	0.001 ppb	8.160 ppb	-0.001 ppb	0.283 ppb	-0.075 ppb	-0.261 ppb	121.148 %
Concentration per Run 2	0.023 ppb	-0.017 ppb	-0.001 ppb	9.952 ppb	0.000 ppb	0.325 ppb	-0.059 ppb	-0.226 ppb	119.102 %
Concentration per Run 3	0.024 ppb	-0.006 ppb	-0.020 ppb	11.963 ppb	0.000 ppb	0.368 ppb	-0.058 ppb	-0.233 ppb	116.525 %
Recovery Percentage 1	0.408 %	-1.155 %	-0.686 %	20.050 %	-0.014 %	16.268 %	-6.369 %	-4.801 %	
Concentration RSD	26.7 %	43.9 %	169.3 %	19.0 %	623.6 %	13.1 %	15.2 %	7.5 %	1.9 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.062 ppb	0.171 ppb	-0.001 ppb	1.594 ppb	114.908 %	0.002 ppb	0.002 ppb	114.411 %	0.243 ppb
Concentration per Run 1	0.057 ppb	0.192 ppb	-0.001 ppb	1.183 ppb	115.237 %	0.003 ppb	0.002 ppb	119.779 %	0.154 ppb
Concentration per Run 2	0.056 ppb	0.158 ppb	-0.001 ppb	1.559 ppb	114.653 %	0.002 ppb	0.002 ppb	111.370 %	0.249 ppb
Concentration per Run 3	0.072 ppb	0.164 ppb	0.000 ppb	2.040 ppb	114.835 %	0.002 ppb	0.003 ppb	112.083 %	0.326 ppb
Recovery Percentage 1	12.368 %	3.426 %	-0.005 %	79.713 %		0.499 %	1.172 %		6.076 %
Concentration RSD	14.5 %	10.3 %	130.7 %	27.0 %	0.3 %	28.9 %	11.4 %	4.1 %	35.3 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.012 ppb	108.599 %	108.057 %	0.282 ppb	-0.005 ppb	110.521 %
Concentration per Run 1	0.016 ppb	110.289 %	109.492 %	0.254 ppb	-0.005 ppb	112.064 %
Concentration per Run 2	0.008 ppb	108.107 %	106.865 %	0.321 ppb	-0.006 ppb	110.759 %
Concentration per Run 3	0.011 ppb	107.401 %	107.814 %	0.271 ppb	-0.005 ppb	108.740 %
Recovery Percentage 1	2.369 %			28.192 %	-0.514 %	
Concentration RSD	34.0 %	1.4 %	1.2 %	12.2 %	10.8 %	1.5 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 40 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452860-01 CT-6020TL Rack: 1
 Analysis started at: 9/23/2024 4:36:41 PM Vial: 20

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	126.578 %	124.677 %	0.172 ppb	291,712.378 ppb	17,689.266 ppb	1,201.164 ppb	9,041.442 ppb	70,531.958 ppb	183.111 %
Concentration per Run 1	124.511 %	127.005 %	0.157 ppb	290,037.814 ppb	17,859.146 ppb	1,232.881 ppb	9,186.796 ppb	72,931.192 ppb	181.782 %
Concentration per Run 2	126.871 %	122.096 %	0.187 ppb	296,191.193 ppb	17,953.181 ppb	1,207.189 ppb	9,131.153 ppb	69,977.176 ppb	184.636 %
Concentration per Run 3	128.352 %	124.930 %	0.172 ppb	288,908.129 ppb	17,255.470 ppb	1,163.421 ppb	8,806.378 ppb	68,687.505 ppb	182.916 %
Concentration RSD	1.5 %	2.0 %	8.9 %	1.3 %	2.1 %	2.9 %	2.3 %	3.1 %	0.8 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	1.493 ppb	5.950 ppb	7,755.388 ppb	72,733.974 ppb	48.389 ppb	21.916 ppb	4.768 ppb	246.442 ppb	119.241 %
Concentration per Run 1	1.506 ppb	5.634 ppb	7,790.786 ppb	72,064.763 ppb	46.907 ppb	21.107 ppb	4.619 ppb	241.720 ppb	121.239 %
Concentration per Run 2	1.472 ppb	6.526 ppb	7,841.873 ppb	73,951.077 ppb	49.488 ppb	22.555 ppb	4.902 ppb	249.669 ppb	117.656 %
Concentration per Run 3	1.502 ppb	5.690 ppb	7,633.503 ppb	72,186.083 ppb	48.772 ppb	22.086 ppb	4.784 ppb	247.937 ppb	118.827 %
Concentration RSD	1.3 %	8.4 %	1.4 %	1.5 %	2.8 %	3.4 %	3.0 %	1.7 %	1.5 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.964 ppb	1.378 ppb	441.431 ppb	1.148 ppb	104.737 %	0.064 ppb	2.028 ppb	112.301 %	0.170 ppb
Concentration per Run 1	0.951 ppb	1.301 ppb	447.104 ppb	1.006 ppb	104.311 %	0.060 ppb	1.978 ppb	113.818 %	0.125 ppb
Concentration per Run 2	0.983 ppb	1.431 ppb	442.495 ppb	1.193 ppb	105.000 %	0.065 ppb	2.021 ppb	112.617 %	0.175 ppb
Concentration per Run 3	0.956 ppb	1.402 ppb	434.695 ppb	1.244 ppb	104.899 %	0.066 ppb	2.086 ppb	110.469 %	0.211 ppb
Concentration RSD	1.8 %	5.0 %	1.4 %	10.9 %	0.4 %	5.4 %	2.7 %	1.5 %	25.3 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	47.929 ppb	112.480 %	109.170 %	0.575 ppb	0.653 ppb	92.037 %
Concentration per Run 1	48.151 ppb	112.763 %	109.668 %	0.537 ppb	0.618 ppb	95.466 %
Concentration per Run 2	47.566 ppb	113.116 %	109.072 %	0.593 ppb	0.656 ppb	91.259 %
Concentration per Run 3	48.071 ppb	111.561 %	108.770 %	0.596 ppb	0.685 ppb	89.385 %
Concentration RSD	0.7 %	0.7 %	0.4 %	5.8 %	5.1 %	3.4 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 41 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452860-02 CT-6020TL Rack: 1
 Analysis started at: 9/23/2024 4:41:19 PM Vial: 21

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	132.544 %	133.802 %	0.110 ppb	167,954.168 ppb	10,749.482 ppb	2,005.123 ppb	7,738.681 ppb	35,404.069 ppb	174.684 %
Concentration per Run 1	130.755 %	135.961 %	0.107 ppb	176,502.735 ppb	11,399.495 ppb	2,196.259 ppb	8,293.355 ppb	38,787.825 ppb	174.495 %
Concentration per Run 2	133.539 %	134.494 %	0.116 ppb	164,471.223 ppb	10,415.532 ppb	1,935.355 ppb	7,596.076 ppb	34,128.175 ppb	173.608 %
Concentration per Run 3	133.339 %	130.952 %	0.106 ppb	162,888.546 ppb	10,433.418 ppb	1,883.756 ppb	7,326.612 ppb	33,296.208 ppb	175.949 %
Concentration RSD	1.2 %	1.9 %	4.8 %	4.4 %	5.2 %	8.4 %	6.4 %	8.4 %	0.7 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	3.674 ppb	9.203 ppb	2,783.611 ppb	97,113.983 ppb	5.401 ppb	10.248 ppb	30.604 ppb	10.678 ppb	128.089 %
Concentration per Run 1	3.857 ppb	9.432 ppb	2,925.699 ppb	100,122.259 ppb	5.375 ppb	10.070 ppb	30.331 ppb	10.871 ppb	131.335 %
Concentration per Run 2	3.555 ppb	9.099 ppb	2,750.474 ppb	95,042.590 ppb	5.310 ppb	10.223 ppb	29.878 ppb	10.492 ppb	129.096 %
Concentration per Run 3	3.608 ppb	9.077 ppb	2,674.659 ppb	96,177.100 ppb	5.517 ppb	10.450 ppb	31.601 ppb	10.672 ppb	123.836 %
Concentration RSD	4.4 %	2.2 %	4.6 %	2.7 %	2.0 %	1.9 %	2.9 %	1.8 %	3.0 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	2.205 ppb	0.329 ppb	271.881 ppb	1.771 ppb	113.264 %	0.051 ppb	0.024 ppb	117.246 %	0.116 ppb
Concentration per Run 1	2.275 ppb	0.408 ppb	288.759 ppb	1.779 ppb	111.328 %	0.056 ppb	0.024 ppb	119.515 %	0.095 ppb
Concentration per Run 2	2.153 ppb	0.307 ppb	266.490 ppb	1.696 ppb	115.666 %	0.050 ppb	0.022 ppb	119.294 %	0.112 ppb
Concentration per Run 3	2.188 ppb	0.273 ppb	260.393 ppb	1.840 ppb	112.796 %	0.049 ppb	0.027 ppb	112.928 %	0.141 ppb
Concentration RSD	2.9 %	21.3 %	5.5 %	4.1 %	1.9 %	7.0 %	10.8 %	3.2 %	19.9 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	53.562 ppb	111.883 %	109.109 %	0.131 ppb	7.888 ppb	94.621 %
Concentration per Run 1	56.056 ppb	108.993 %	107.035 %	0.120 ppb	8.033 ppb	93.137 %
Concentration per Run 2	52.399 ppb	113.633 %	111.931 %	0.136 ppb	7.750 ppb	96.576 %
Concentration per Run 3	52.231 ppb	113.023 %	108.359 %	0.137 ppb	7.881 ppb	94.150 %
Concentration RSD	4.0 %	2.3 %	2.3 %	7.4 %	1.8 %	1.9 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 42 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452860-03 CT-6020TL Rack: 1
 Analysis started at: 9/23/2024 4:45:58 PM Vial: 22

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	135.358 %	139.015 %	0.008 ppb	81,248.991 ppb	13,089.283 ppb	314.397 ppb	4,510.927 ppb	39,743.776 ppb	168.345 %
Concentration per Run 1	134.364 %	151.396 %	0.010 ppb	79,875.388 ppb	12,910.584 ppb	318.420 ppb	4,617.207 ppb	40,491.456 ppb	167.166 %
Concentration per Run 2	135.705 %	137.884 %	0.010 ppb	81,497.250 ppb	13,257.095 ppb	316.672 ppb	4,542.492 ppb	39,980.275 ppb	168.539 %
Concentration per Run 3	136.006 %	127.764 %	0.005 ppb	82,374.335 ppb	13,100.170 ppb	308.098 ppb	4,373.082 ppb	38,759.598 ppb	169.331 %
Concentration RSD	0.6 %	8.5 %	34.9 %	1.6 %	1.3 %	1.8 %	2.8 %	2.2 %	0.7 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.531 ppb	0.417 ppb	53.831 ppb	1,750.008 ppb	0.437 ppb	3.836 ppb	1.314 ppb	7.441 ppb	129.052 %
Concentration per Run 1	0.505 ppb	0.399 ppb	52.169 ppb	1,662.554 ppb	0.386 ppb	3.490 ppb	1.212 ppb	7.146 ppb	138.058 %
Concentration per Run 2	0.528 ppb	0.415 ppb	54.456 ppb	1,783.033 ppb	0.453 ppb	3.936 ppb	1.340 ppb	7.529 ppb	128.847 %
Concentration per Run 3	0.559 ppb	0.436 ppb	54.869 ppb	1,804.438 ppb	0.470 ppb	4.081 ppb	1.391 ppb	7.649 ppb	120.252 %
Concentration RSD	5.1 %	4.4 %	2.7 %	4.4 %	10.1 %	8.0 %	7.0 %	3.5 %	6.9 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.137 ppb	0.873 ppb	210.149 ppb	1.190 ppb	119.539 %	0.010 ppb	0.070 ppb	121.851 %	0.078 ppb
Concentration per Run 1	0.133 ppb	0.886 ppb	213.944 ppb	1.095 ppb	124.356 %	0.010 ppb	0.069 ppb	133.297 %	0.055 ppb
Concentration per Run 2	0.138 ppb	0.922 ppb	214.204 ppb	1.172 ppb	117.487 %	0.009 ppb	0.070 ppb	119.668 %	0.081 ppb
Concentration per Run 3	0.141 ppb	0.810 ppb	202.298 ppb	1.303 ppb	116.775 %	0.011 ppb	0.072 ppb	112.589 %	0.098 ppb
Concentration RSD	2.9 %	6.5 %	3.2 %	8.9 %	3.5 %	11.8 %	2.5 %	8.6 %	27.7 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	54.834 ppb	115.937 %	113.094 %	0.036 ppb	0.275 ppb	104.158 %
Concentration per Run 1	53.504 ppb	120.917 %	121.189 %	0.022 ppb	0.254 ppb	109.647 %
Concentration per Run 2	56.551 ppb	112.834 %	109.702 %	0.041 ppb	0.287 ppb	101.915 %
Concentration per Run 3	54.446 ppb	114.059 %	108.390 %	0.043 ppb	0.283 ppb	100.912 %
Concentration RSD	2.8 %	3.8 %	6.2 %	32.0 %	6.5 %	4.6 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 43 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452860-04 CT-6020TL Rack: 1
 Analysis started at: 9/23/2024 4:50:37 PM Vial: 23

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	145.887 %	146.436 %	1.036 ppb	186,235.968 ppb	14,409.880 ppb	3,651.914 ppb	7,247.087 ppb	32,194.117 ppb	204.111 %
Concentration per Run 1	145.886 %	139.048 %	0.994 ppb	201,278.513 ppb	15,726.521 ppb	4,078.922 ppb	7,906.158 ppb	35,902.945 ppb	207.309 %
Concentration per Run 2	148.751 %	148.359 %	1.024 ppb	180,849.020 ppb	13,952.715 ppb	3,474.614 ppb	6,885.961 ppb	30,462.262 ppb	207.346 %
Concentration per Run 3	143.024 %	151.902 %	1.089 ppb	176,580.371 ppb	13,550.405 ppb	3,402.205 ppb	6,949.142 ppb	30,217.144 ppb	197.678 %
Concentration RSD	2.0 %	4.5 %	4.7 %	7.1 %	8.0 %	10.2 %	7.9 %	10.0 %	2.7 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	5.178 ppb	3.326 ppb	3,814.421 ppb	107,162.592 ppb	16.790 ppb	34.803 ppb	4.719 ppb	264.829 ppb	134.994 %
Concentration per Run 1	5.463 ppb	3.550 ppb	4,063.031 ppb	113,251.927 ppb	17.498 ppb	35.718 ppb	4.859 ppb	278.473 ppb	132.542 %
Concentration per Run 2	5.099 ppb	3.266 ppb	3,725.877 ppb	104,728.378 ppb	16.491 ppb	34.821 ppb	4.592 ppb	260.449 ppb	134.584 %
Concentration per Run 3	4.974 ppb	3.162 ppb	3,654.355 ppb	103,507.473 ppb	16.382 ppb	33.871 ppb	4.705 ppb	255.566 ppb	137.857 %
Concentration RSD	4.9 %	6.0 %	5.7 %	5.0 %	3.7 %	2.7 %	2.8 %	4.6 %	2.0 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	1.359 ppb	0.743 ppb	206.842 ppb	0.488 ppb	119.183 %	0.033 ppb	0.849 ppb	124.008 %	0.084 ppb
Concentration per Run 1	1.471 ppb	0.798 ppb	224.374 ppb	0.460 ppb	112.636 %	0.032 ppb	0.895 ppb	121.243 %	0.071 ppb
Concentration per Run 2	1.343 ppb	0.701 ppb	198.041 ppb	0.477 ppb	123.338 %	0.033 ppb	0.830 ppb	126.849 %	0.079 ppb
Concentration per Run 3	1.263 ppb	0.731 ppb	198.110 ppb	0.528 ppb	121.574 %	0.033 ppb	0.823 ppb	123.931 %	0.101 ppb
Concentration RSD	7.7 %	6.7 %	7.3 %	7.2 %	4.8 %	1.2 %	4.7 %	2.3 %	18.7 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	62.323 ppb	117.315 %	114.790 %	0.193 ppb	2.246 ppb	97.364 %
Concentration per Run 1	66.209 ppb	111.905 %	109.381 %	0.193 ppb	2.379 ppb	92.840 %
Concentration per Run 2	58.675 ppb	121.235 %	118.871 %	0.198 ppb	2.205 ppb	97.820 %
Concentration per Run 3	62.084 ppb	118.805 %	116.118 %	0.190 ppb	2.154 ppb	101.432 %
Concentration RSD	6.1 %	4.1 %	4.3 %	2.0 %	5.2 %	4.4 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 44 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452860-05 CT-6020TL Rack: 1
 Analysis started at: 9/23/2024 4:55:16 PM Vial: 24

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	129.861 %	137.480 %	0.015 ppb	140,197.435 ppb	7,708.013 ppb	171.167 ppb	5,215.369 ppb	26,468.606 ppb	162.674 %
Concentration per Run 1	129.359 %	134.747 %	0.017 ppb	143,754.044 ppb	7,925.278 ppb	174.078 ppb	5,266.121 ppb	27,319.051 ppb	161.607 %
Concentration per Run 2	129.813 %	137.328 %	0.016 ppb	138,106.613 ppb	7,543.682 ppb	172.064 ppb	5,205.411 ppb	26,223.783 ppb	163.503 %
Concentration per Run 3	130.411 %	140.364 %	0.014 ppb	138,731.648 ppb	7,655.081 ppb	167.358 ppb	5,174.576 ppb	25,862.984 ppb	162.914 %
Concentration RSD	0.4 %	2.0 %	11.1 %	2.2 %	2.5 %	2.0 %	0.9 %	2.9 %	0.6 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.469 ppb	0.436 ppb	1,174.779 ppb	37,117.332 ppb	2.288 ppb	7.422 ppb	19.979 ppb	5.778 ppb	126.975 %
Concentration per Run 1	0.502 ppb	0.440 ppb	1,186.838 ppb	37,611.611 ppb	2.297 ppb	7.319 ppb	20.376 ppb	5.967 ppb	123.916 %
Concentration per Run 2	0.465 ppb	0.435 ppb	1,166.512 ppb	36,736.404 ppb	2.240 ppb	7.354 ppb	19.872 ppb	5.668 ppb	129.166 %
Concentration per Run 3	0.441 ppb	0.433 ppb	1,170.987 ppb	37,003.982 ppb	2.326 ppb	7.593 ppb	19.691 ppb	5.698 ppb	127.844 %
Concentration RSD	6.5 %	0.9 %	0.9 %	1.2 %	1.9 %	2.0 %	1.8 %	2.8 %	2.2 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	5.594 ppb	0.069 ppb	157.959 ppb	0.927 ppb	116.744 %	0.037 ppb	0.040 ppb	119.245 %	0.063 ppb
Concentration per Run 1	5.681 ppb	0.043 ppb	158.654 ppb	0.912 ppb	116.052 %	0.031 ppb	0.038 ppb	117.793 %	0.048 ppb
Concentration per Run 2	5.486 ppb	0.083 ppb	157.026 ppb	0.946 ppb	116.345 %	0.039 ppb	0.038 ppb	119.658 %	0.062 ppb
Concentration per Run 3	5.617 ppb	0.081 ppb	158.197 ppb	0.921 ppb	117.835 %	0.041 ppb	0.045 ppb	120.283 %	0.080 ppb
Concentration RSD	1.8 %	32.1 %	0.5 %	1.9 %	0.8 %	14.2 %	9.6 %	1.1 %	25.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	35.706 ppb	113.852 %	111.209 %	0.050 ppb	1.365 ppb	100.324 %
Concentration per Run 1	35.944 ppb	112.273 %	109.379 %	0.042 ppb	1.358 ppb	99.414 %
Concentration per Run 2	35.286 ppb	115.291 %	112.122 %	0.053 ppb	1.364 ppb	101.201 %
Concentration per Run 3	35.889 ppb	113.993 %	112.124 %	0.056 ppb	1.373 ppb	100.356 %
Concentration RSD	1.0 %	1.3 %	1.4 %	14.5 %	0.6 %	0.9 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 45 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452860-06 CT-6020TL Rack: 1
 Analysis started at: 9/23/2024 4:59:56 PM Vial: 25

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	144.935 %	149.388 %	0.030 ppb	232,795.309 ppb	7,553.133 ppb	406.627 ppb	14,897.510 ppb	24,551.421 ppb	203.776 %
Concentration per Run 1	144.333 %	151.396 %	0.031 ppb	220,671.756 ppb	7,174.294 ppb	385.526 ppb	14,488.944 ppb	23,465.266 ppb	202.523 %
Concentration per Run 2	144.930 %	146.993 %	0.026 ppb	237,289.826 ppb	7,704.462 ppb	417.742 ppb	14,996.539 ppb	25,088.450 ppb	203.706 %
Concentration per Run 3	145.542 %	149.776 %	0.033 ppb	240,424.344 ppb	7,780.644 ppb	416.612 ppb	15,207.048 ppb	25,100.547 ppb	205.099 %
Concentration RSD	0.4 %	1.5 %	12.7 %	4.6 %	4.4 %	4.5 %	2.5 %	3.8 %	0.6 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	2.269 ppb	4.552 ppb	2,720.199 ppb	157,358.372 ppb	8.300 ppb	8.091 ppb	4.591 ppb	8.008 ppb	145.153 %
Concentration per Run 1	2.099 ppb	4.290 ppb	2,539.358 ppb	146,057.050 ppb	7.715 ppb	7.543 ppb	4.197 ppb	7.452 ppb	152.836 %
Concentration per Run 2	2.407 ppb	4.726 ppb	2,822.432 ppb	164,208.234 ppb	8.633 ppb	8.499 ppb	4.745 ppb	8.190 ppb	140.675 %
Concentration per Run 3	2.301 ppb	4.639 ppb	2,798.806 ppb	161,809.833 ppb	8.552 ppb	8.232 ppb	4.830 ppb	8.381 ppb	141.947 %
Concentration RSD	6.9 %	5.1 %	5.8 %	6.3 %	6.1 %	6.1 %	7.5 %	6.1 %	4.6 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	6.170 ppb	1.049 ppb	225.139 ppb	2.193 ppb	129.385 %	0.053 ppb	0.012 ppb	131.896 %	0.084 ppb
Concentration per Run 1	5.730 ppb	0.946 ppb	206.310 ppb	2.036 ppb	136.704 %	0.049 ppb	0.010 ppb	140.646 %	0.069 ppb
Concentration per Run 2	6.314 ppb	1.117 ppb	234.705 ppb	2.249 ppb	127.229 %	0.055 ppb	0.016 ppb	128.763 %	0.084 ppb
Concentration per Run 3	6.466 ppb	1.083 ppb	234.403 ppb	2.294 ppb	124.223 %	0.054 ppb	0.012 ppb	126.278 %	0.100 ppb
Concentration RSD	6.3 %	8.6 %	7.2 %	6.3 %	5.0 %	6.3 %	24.7 %	5.8 %	18.1 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	49.558 ppb	122.035 %	119.256 %	0.020 ppb	1.155 ppb	99.576 %
Concentration per Run 1	45.314 ppb	128.711 %	124.479 %	0.010 ppb	1.027 ppb	108.854 %
Concentration per Run 2	51.256 ppb	119.309 %	117.350 %	0.023 ppb	1.195 ppb	96.547 %
Concentration per Run 3	52.105 ppb	118.086 %	115.939 %	0.026 ppb	1.243 ppb	93.328 %
Concentration RSD	7.5 %	4.8 %	3.8 %	44.2 %	9.8 %	8.2 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 46 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452860-07 CT-6020TL Rack: 1
 Analysis started at: 9/23/2024 5:04:33 PM Vial: 26

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	168.404 %	148.865 %	1.882 ppb	1,109,626.369 ppb	23,082.620 ppb	19,562.963 ppb	26,975.190 ppb	62,637.537 ppb	225.649 %
Concentration per Run 1	166.033 %	143.704 %	1.906 ppb	1,148,968.251 ppb	24,089.021 ppb	20,179.577 ppb	27,947.453 ppb	64,807.190 ppb	222.213 %
Concentration per Run 2	170.859 %	148.157 %	1.900 ppb	1,099,002.809 ppb	22,995.916 ppb	19,547.358 ppb	26,670.050 ppb	61,871.104 ppb	229.353 %
Concentration per Run 3	168.320 %	154.735 %	1.840 ppb	1,080,908.046 ppb	22,162.924 ppb	18,961.953 ppb	26,308.067 ppb	61,234.318 ppb	225.382 %
Concentration RSD	1.4 %	3.7 %	1.9 %	3.2 %	4.2 %	3.1 %	3.2 %	3.0 %	1.6 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	2.798 ppb	3.683 ppb	7,659.693 ppb	413,875.700 ppb	123.752 ppb	212.503 ppb	62.611 ppb	2,917.316 ppb	135.441 %
Concentration per Run 1	2.913 ppb	3.779 ppb	7,797.456 ppb	421,326.322 ppb	125.963 ppb	217.701 ppb	64.447 ppb	3,001.945 ppb	131.641 %
Concentration per Run 2	2.751 ppb	3.670 ppb	7,618.077 ppb	412,479.968 ppb	123.782 ppb	210.843 ppb	61.945 ppb	2,883.004 ppb	136.985 %
Concentration per Run 3	2.729 ppb	3.601 ppb	7,563.547 ppb	407,820.811 ppb	121.511 ppb	208.963 ppb	61.442 ppb	2,866.998 ppb	137.698 %
Concentration RSD	3.6 %	2.4 %	1.6 %	1.7 %	1.8 %	2.2 %	2.6 %	2.5 %	2.4 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	1.982 ppb	2.060 ppb	736.189 ppb	0.585 ppb	108.114 %	0.602 ppb	24.419 ppb	115.788 %	0.088 ppb
Concentration per Run 1	2.062 ppb	2.035 ppb	755.999 ppb	0.527 ppb	104.614 %	0.607 ppb	25.120 ppb	111.529 %	0.078 ppb
Concentration per Run 2	1.938 ppb	2.085 ppb	718.573 ppb	0.550 ppb	110.266 %	0.596 ppb	24.067 ppb	118.430 %	0.088 ppb
Concentration per Run 3	1.944 ppb	2.060 ppb	733.995 ppb	0.677 ppb	109.462 %	0.602 ppb	24.069 ppb	117.406 %	0.097 ppb
Concentration RSD	3.5 %	1.2 %	2.6 %	13.8 %	2.8 %	0.9 %	2.5 %	3.2 %	10.9 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	74.284 ppb	106.694 %	98.609 %	0.849 ppb	12.648 ppb	71.922 %
Concentration per Run 1	75.253 ppb	103.392 %	95.783 %	0.867 ppb	12.916 ppb	70.207 %
Concentration per Run 2	72.983 ppb	109.615 %	101.291 %	0.840 ppb	12.426 ppb	72.916 %
Concentration per Run 3	74.617 ppb	107.076 %	98.754 %	0.840 ppb	12.601 ppb	72.642 %
Concentration RSD	1.6 %	2.9 %	2.8 %	1.9 %	2.0 %	2.1 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 47 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452860-08 CT-6020TL Rack: 1
 Analysis started at: 9/23/2024 5:09:10 PM Vial: 27

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	137.902 %	148.089 %	0.004 ppb	178.451 ppb	16.668 ppb	57.205 ppb	51.327 ppb	38.900 ppb	158.832 %
Concentration per Run 1	137.013 %	146.689 %	0.008 ppb	186.979 ppb	15.907 ppb	57.828 ppb	54.161 ppb	37.872 ppb	157.857 %
Concentration per Run 2	138.982 %	148.106 %	0.002 ppb	177.483 ppb	17.491 ppb	56.278 ppb	51.091 ppb	38.039 ppb	160.255 %
Concentration per Run 3	137.712 %	149.473 %	0.001 ppb	170.890 ppb	16.606 ppb	57.508 ppb	48.729 ppb	40.791 ppb	158.384 %
Concentration RSD	0.7 %	0.9 %	106.8 %	4.5 %	4.8 %	1.4 %	5.3 %	4.2 %	0.8 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.126 ppb	3.532 ppb	2.853 ppb	231.747 ppb	0.045 ppb	2.641 ppb	1.376 ppb	0.896 ppb	134.286 %
Concentration per Run 1	0.141 ppb	3.487 ppb	2.821 ppb	221.861 ppb	0.046 ppb	2.556 ppb	1.405 ppb	0.938 ppb	134.779 %
Concentration per Run 2	0.130 ppb	3.540 ppb	2.814 ppb	234.323 ppb	0.044 ppb	2.522 ppb	1.296 ppb	0.867 ppb	135.371 %
Concentration per Run 3	0.108 ppb	3.570 ppb	2.925 ppb	239.057 ppb	0.045 ppb	2.844 ppb	1.428 ppb	0.883 ppb	132.708 %
Concentration RSD	13.3 %	1.2 %	2.2 %	3.8 %	2.4 %	6.7 %	5.1 %	4.2 %	1.0 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.005 ppb	-0.008 ppb	0.167 ppb	0.296 ppb	130.651 %	0.304 ppb	0.024 ppb	125.182 %	0.045 ppb
Concentration per Run 1	-0.002 ppb	-0.026 ppb	0.166 ppb	0.243 ppb	132.210 %	0.299 ppb	0.024 ppb	125.912 %	0.034 ppb
Concentration per Run 2	0.007 ppb	0.014 ppb	0.165 ppb	0.283 ppb	130.372 %	0.305 ppb	0.024 ppb	125.650 %	0.047 ppb
Concentration per Run 3	0.008 ppb	-0.010 ppb	0.169 ppb	0.360 ppb	129.371 %	0.308 ppb	0.024 ppb	123.984 %	0.055 ppb
Concentration RSD	119.7 %	267.3 %	1.5 %	20.0 %	1.1 %	1.5 %	1.1 %	0.8 %	23.9 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.620 ppb	117.569 %	114.265 %	0.013 ppb	0.038 ppb	114.284 %
Concentration per Run 1	0.585 ppb	117.806 %	116.873 %	0.004 ppb	0.035 ppb	115.184 %
Concentration per Run 2	0.628 ppb	117.726 %	110.652 %	0.018 ppb	0.040 ppb	113.375 %
Concentration per Run 3	0.646 ppb	117.175 %	115.270 %	0.016 ppb	0.038 ppb	114.294 %
Concentration RSD	5.1 %	0.3 %	2.8 %	60.7 %	6.2 %	0.8 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 48 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: I2452860-09 CT-6020TL Rack: 1
 Analysis started at: 9/23/2024 5:13:47 PM Vial: 28

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	139.619 %	145.104 %	0.045 ppb	138,998.428 ppb	7,693.646 ppb	533.573 ppb	5,305.986 ppb	26,520.454 ppb	178.687 %
Concentration per Run 1	136.849 %	144.159 %	0.056 ppb	138,048.193 ppb	7,584.034 ppb	526.761 ppb	5,238.235 ppb	26,279.385 ppb	176.215 %
Concentration per Run 2	140.100 %	146.588 %	0.044 ppb	137,860.849 ppb	7,704.967 ppb	530.510 ppb	5,309.076 ppb	26,487.065 ppb	179.949 %
Concentration per Run 3	141.907 %	144.564 %	0.036 ppb	141,086.241 ppb	7,791.938 ppb	543.449 ppb	5,370.646 ppb	26,794.912 ppb	179.898 %
Concentration RSD	1.8 %	0.9 %	21.2 %	1.3 %	1.4 %	1.6 %	1.2 %	1.0 %	1.2 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	1.298 ppb	1.006 ppb	1,174.391 ppb	38,116.171 ppb	2,465 ppb	8,401 ppb	34,614 ppb	7,965 ppb	132.189 %
Concentration per Run 1	1.338 ppb	0.977 ppb	1,164.536 ppb	38,014.491 ppb	2,453 ppb	8,296 ppb	33,993 ppb	7,872 ppb	132.139 %
Concentration per Run 2	1.244 ppb	1.001 ppb	1,178.863 ppb	37,972.950 ppb	2,478 ppb	8,552 ppb	35,134 ppb	7,937 ppb	131.540 %
Concentration per Run 3	1.312 ppb	1.041 ppb	1,179.773 ppb	38,361.073 ppb	2,462 ppb	8,354 ppb	34,716 ppb	8,088 ppb	132.887 %
Concentration RSD	3.8 %	3.2 %	0.7 %	0.6 %	0.5 %	1.6 %	1.7 %	1.4 %	0.5 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	5.697 ppb	0.096 ppb	157.165 ppb	1.057 ppb	119.895 %	0.058 ppb	0.048 ppb	121.933 %	0.051 ppb
Concentration per Run 1	5.611 ppb	0.101 ppb	154.379 ppb	1.116 ppb	119.091 %	0.057 ppb	0.048 ppb	121.306 %	0.044 ppb
Concentration per Run 2	5.805 ppb	0.092 ppb	158.808 ppb	1.014 ppb	120.266 %	0.058 ppb	0.046 ppb	122.268 %	0.054 ppb
Concentration per Run 3	5.676 ppb	0.093 ppb	158.308 ppb	1.043 ppb	120.329 %	0.060 ppb	0.051 ppb	122.226 %	0.054 ppb
Concentration RSD	1.7 %	4.9 %	1.5 %	5.0 %	0.6 %	2.8 %	4.9 %	0.4 %	11.1 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	41.812 ppb	114.781 %	112.210 %	0.063 ppb	2.713 ppb	101.523 %
Concentration per Run 1	41.368 ppb	114.515 %	111.997 %	0.056 ppb	2.609 ppb	103.759 %
Concentration per Run 2	42.634 ppb	114.035 %	112.366 %	0.068 ppb	2.789 ppb	99.774 %
Concentration per Run 3	41.433 ppb	115.793 %	112.268 %	0.066 ppb	2.742 ppb	101.035 %
Concentration RSD	1.7 %	0.8 %	0.2 %	10.2 %	3.4 %	2.0 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 49 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: CCV Rack: 0
 Analysis started at: 9/23/2024 5:21:48 PM Vial: 9

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	139.064 %	148.073 %	53.560 ppb	5,967.512 ppb	5,963.364 ppb	59.585 ppb	6,166.189 ppb	6,059.798 ppb	166.024 %
Concentration per Run 1	137.175 %	151.294 %	53.987 ppb	6,079.074 ppb	5,862.338 ppb	62.389 ppb	6,272.246 ppb	6,248.758 ppb	164.833 %
Concentration per Run 2	139.326 %	145.930 %	53.107 ppb	5,959.136 ppb	6,079.858 ppb	58.462 ppb	6,227.617 ppb	6,014.360 ppb	167.924 %
Concentration per Run 3	140.691 %	146.993 %	53.585 ppb	5,864.325 ppb	5,947.896 ppb	57.905 ppb	5,998.706 ppb	5,916.276 ppb	165.316 %
Recovery Percentage 1			89.266 %	99.459 %	99.389 %	99.309 %	102.770 %	100.997 %	
Concentration RSD	1.3 %	1.9 %	0.8 %	1.8 %	1.8 %	4.1 %	2.4 %	2.8 %	1.0 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	54.433 ppb	53.904 ppb	56.301 ppb	5,716.530 ppb	58.417 ppb	58.775 ppb	58.527 ppb	58.339 ppb	139.345 %
Concentration per Run 1	54.901 ppb	54.354 ppb	57.143 ppb	5,783.458 ppb	57.882 ppb	58.534 ppb	57.859 ppb	58.317 ppb	142.385 %
Concentration per Run 2	54.280 ppb	53.034 ppb	55.172 ppb	5,635.362 ppb	58.158 ppb	58.543 ppb	58.598 ppb	57.597 ppb	139.825 %
Concentration per Run 3	54.118 ppb	54.324 ppb	56.588 ppb	5,730.769 ppb	59.210 ppb	59.248 ppb	59.123 ppb	59.101 ppb	135.825 %
Recovery Percentage 1	90.722 %	89.840 %	93.835 %	95.275 %	97.361 %	97.958 %	97.545 %	97.231 %	
Concentration RSD	0.8 %	1.4 %	1.8 %	1.3 %	1.2 %	0.7 %	1.1 %	1.3 %	2.4 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	57.425 ppb	57.503 ppb	58.102 ppb	59.662 ppb	131.801 %	58.418 ppb	57.319 ppb	128.523 %	57.763 ppb
Concentration per Run 1	57.502 ppb	58.618 ppb	60.678 ppb	61.054 ppb	131.026 %	59.211 ppb	58.082 ppb	130.652 %	59.116 ppb
Concentration per Run 2	56.724 ppb	56.702 ppb	56.996 ppb	59.200 ppb	132.688 %	57.919 ppb	56.816 ppb	127.836 %	57.406 ppb
Concentration per Run 3	58.050 ppb	57.191 ppb	56.633 ppb	58.734 ppb	131.690 %	58.124 ppb	57.059 ppb	127.081 %	56.767 ppb
Recovery Percentage 1	95.709 %	95.839 %	96.837 %	99.437 %		97.363 %	95.531 %		96.272 %
Concentration RSD	1.2 %	1.7 %	3.9 %	2.1 %	0.6 %	1.2 %	1.2 %	1.5 %	2.1 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	58.901 ppb	119.168 %	115.471 %	60.277 ppb	57.912 ppb	112.935 %
Concentration per Run 1	60.984 ppb	117.893 %	114.810 %	60.196 ppb	57.541 ppb	113.633 %
Concentration per Run 2	57.858 ppb	119.408 %	116.068 %	60.709 ppb	58.339 ppb	112.673 %
Concentration per Run 3	57.860 ppb	120.203 %	115.534 %	59.926 ppb	57.856 ppb	112.500 %
Recovery Percentage 1	98.168 %			100.462 %	96.520 %	
Concentration RSD	3.1 %	1.0 %	0.5 %	0.7 %	0.7 %	0.5 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 50 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: CCB Rack: 0
 Analysis started at: 9/23/2024 5:26:30 PM Vial: 10

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	136.778 %	145.947 %	-0.007 ppb	37.293 ppb	-1.895 ppb	-0.373 ppb	1.219 ppb	-0.731 ppb	153.079 %
Concentration per Run 1	135.230 %	156.912 %	-0.012 ppb	38.800 ppb	-2.027 ppb	-0.326 ppb	3.019 ppb	0.302 ppb	150.751 %
Concentration per Run 2	138.212 %	139.959 %	-0.005 ppb	39.452 ppb	-1.717 ppb	-0.393 ppb	0.961 ppb	-1.066 ppb	152.929 %
Concentration per Run 3	136.892 %	140.971 %	-0.003 ppb	33.625 ppb	-1.941 ppb	-0.402 ppb	-0.324 ppb	-1.428 ppb	155.557 %
Recovery Percentage 1			-1.345 %	37.293 %	-2.707 %	-3.734 %	1.219 %	-0.731 %	
Concentration RSD	1.1 %	6.5 %	66.8 %	8.6 %	8.5 %	11.0 %	138.3 %	124.9 %	1.6 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.000 ppb	-0.012 ppb	0.022 ppb	18.945 ppb	0.001 ppb	0.353 ppb	-0.096 ppb	-0.211 ppb	132.651 %
Concentration per Run 1	0.002 ppb	-0.011 ppb	0.016 ppb	15.866 ppb	0.002 ppb	0.333 ppb	-0.100 ppb	-0.213 ppb	140.111 %
Concentration per Run 2	0.001 ppb	-0.014 ppb	0.026 ppb	19.769 ppb	0.001 ppb	0.330 ppb	-0.094 ppb	-0.209 ppb	129.922 %
Concentration per Run 3	-0.003 ppb	-0.012 ppb	0.024 ppb	21.199 ppb	0.002 ppb	0.395 ppb	-0.094 ppb	-0.212 ppb	127.922 %
Recovery Percentage 1	0.004 %	-1.229 %	2.205 %	37.890 %	0.285 %	17.643 %	-9.575 %	-4.219 %	
Concentration RSD	1,235.2 %	11.3 %	23.7 %	14.6 %	43.1 %	10.4 %	3.4 %	1.0 %	4.9 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.047 ppb	0.196 ppb	0.003 ppb	1.492 ppb	130.775 %	0.001 ppb	0.002 ppb	125.902 %	0.158 ppb
Concentration per Run 1	0.054 ppb	0.249 ppb	0.004 ppb	1.071 ppb	134.135 %	0.001 ppb	0.002 ppb	134.669 %	0.088 ppb
Concentration per Run 2	0.041 ppb	0.184 ppb	0.001 ppb	1.584 ppb	127.766 %	0.000 ppb	0.002 ppb	122.182 %	0.173 ppb
Concentration per Run 3	0.046 ppb	0.155 ppb	0.002 ppb	1.821 ppb	130.424 %	0.000 ppb	0.002 ppb	120.856 %	0.212 ppb
Recovery Percentage 1	9.431 %	3.919 %	0.026 %	74.593 %		0.166 %	0.948 %		3.939 %
Concentration RSD	13.8 %	24.5 %	52.5 %	25.7 %	2.4 %	48.7 %	18.3 %	6.1 %	40.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.005 ppb	116.071 %	112.192 %	0.278 ppb	-0.012 ppb	113.124 %
Concentration per Run 1	0.013 ppb	119.197 %	117.757 %	0.248 ppb	-0.012 ppb	119.989 %
Concentration per Run 2	0.002 ppb	113.004 %	109.384 %	0.324 ppb	-0.011 ppb	109.081 %
Concentration per Run 3	0.000 ppb	116.014 %	109.434 %	0.261 ppb	-0.012 ppb	110.303 %
Recovery Percentage 1	0.975 %			27.791 %	-1.168 %	
Concentration RSD	145.5 %	2.7 %	4.3 %	14.6 %	7.7 %	5.3 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 51 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: CCV Rack: 0
 Analysis started at: 9/23/2024 5:36:14 PM Vial: 9

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	134.005 %	144.328 %	54.591 ppb	5,846.687 ppb	5,893.537 ppb	57.078 ppb	5,991.702 ppb	5,815.432 ppb	167.437 %
Concentration per Run 1	132.407 %	155.140 %	54.636 ppb	5,686.937 ppb	5,784.881 ppb	56.794 ppb	6,097.923 ppb	5,860.204 ppb	166.506 %
Concentration per Run 2	134.335 %	142.742 %	54.630 ppb	5,916.153 ppb	5,943.062 ppb	58.759 ppb	6,024.840 ppb	5,863.431 ppb	167.827 %
Concentration per Run 3	135.274 %	135.101 %	54.505 ppb	5,936.973 ppb	5,952.669 ppb	55.680 ppb	5,852.344 ppb	5,722.661 ppb	167.977 %
Recovery Percentage 1			90.984 %	97.445 %	98.226 %	95.130 %	99.862 %	96.924 %	
Concentration RSD	1.1 %	7.0 %	0.1 %	2.4 %	1.6 %	2.7 %	2.1 %	1.4 %	0.5 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	54.480 ppb	54.995 ppb	55.672 ppb	5,702.483 ppb	59.606 ppb	60.699 ppb	60.091 ppb	58.896 ppb	132.096 %
Concentration per Run 1	52.046 ppb	51.935 ppb	53.805 ppb	5,479.648 ppb	56.139 ppb	56.406 ppb	55.353 ppb	55.808 ppb	143.355 %
Concentration per Run 2	55.669 ppb	56.067 ppb	57.216 ppb	5,746.804 ppb	60.333 ppb	61.854 ppb	60.165 ppb	59.882 ppb	132.052 %
Concentration per Run 3	55.725 ppb	56.984 ppb	55.995 ppb	5,880.996 ppb	62.346 ppb	63.837 ppb	64.754 ppb	61.000 ppb	120.882 %
Recovery Percentage 1	90.800 %	91.659 %	92.787 %	95.041 %	99.344 %	101.165 %	100.151 %	98.161 %	
Concentration RSD	3.9 %	4.9 %	3.1 %	3.6 %	5.3 %	6.3 %	7.8 %	4.6 %	8.5 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	58.325 ppb	56.762 ppb	56.394 ppb	60.476 ppb	127.436 %	59.470 ppb	57.698 ppb	122.286 %	57.442 ppb
Concentration per Run 1	55.902 ppb	55.951 ppb	55.228 ppb	58.087 ppb	133.478 %	56.790 ppb	54.927 ppb	131.142 %	55.585 ppb
Concentration per Run 2	59.322 ppb	57.770 ppb	57.423 ppb	61.160 ppb	126.347 %	60.213 ppb	58.969 ppb	121.582 %	58.600 ppb
Concentration per Run 3	59.751 ppb	56.566 ppb	56.532 ppb	62.182 ppb	122.482 %	61.406 ppb	59.198 ppb	114.133 %	58.142 ppb
Recovery Percentage 1	97.208 %	94.604 %	93.990 %	100.794 %		99.116 %	96.164 %		95.737 %
Concentration RSD	3.6 %	1.6 %	2.0 %	3.5 %	4.4 %	4.0 %	4.2 %	7.0 %	2.8 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	58.166 ppb	117.109 %	112.976 %	59.528 ppb	56.655 ppb	114.990 %
Concentration per Run 1	56.313 ppb	121.953 %	117.791 %	55.577 ppb	52.774 ppb	122.153 %
Concentration per Run 2	59.185 ppb	116.590 %	112.593 %	60.089 ppb	57.524 ppb	114.164 %
Concentration per Run 3	59.000 ppb	112.783 %	108.545 %	62.917 ppb	59.666 ppb	108.652 %
Recovery Percentage 1	96.944 %			99.213 %	94.424 %	
Concentration RSD	2.8 %	3.9 %	4.1 %	6.2 %	6.2 %	5.9 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 52 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: CCB Rack: 0
 Analysis started at: 9/23/2024 5:40:56 PM Vial: 10

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	131.989 %	145.930 %	-0.008 ppb	24.302 ppb	-1.956 ppb	-0.528 ppb	-1.417 ppb	-1.178 ppb	155.706 %
Concentration per Run 1	129.933 %	154.027 %	-0.012 ppb	22.893 ppb	-2.312 ppb	-0.566 ppb	-2.085 ppb	-0.478 ppb	152.365 %
Concentration per Run 2	132.561 %	147.246 %	-0.004 ppb	25.075 ppb	-1.801 ppb	-0.477 ppb	-0.203 ppb	-0.881 ppb	157.439 %
Concentration per Run 3	133.472 %	136.518 %	-0.008 ppb	24.938 ppb	-1.755 ppb	-0.539 ppb	-1.962 ppb	-2.176 ppb	157.313 %
Recovery Percentage 1			-1.615 %	24.302 %	-2.795 %	-5.275 %	-1.417 %	-1.178 %	
Concentration RSD	1.4 %	6.0 %	46.4 %	5.0 %	15.8 %	8.6 %	74.3 %	75.3 %	1.9 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	-0.005 ppb	-0.009 ppb	-0.029 ppb	14.167 ppb	0.001 ppb	0.297 ppb	-0.107 ppb	-0.224 ppb	130.365 %
Concentration per Run 1	0.000 ppb	-0.012 ppb	-0.024 ppb	10.858 ppb	0.001 ppb	0.263 ppb	-0.102 ppb	-0.240 ppb	136.493 %
Concentration per Run 2	-0.011 ppb	-0.005 ppb	-0.037 ppb	14.716 ppb	0.001 ppb	0.267 ppb	-0.130 ppb	-0.215 ppb	132.728 %
Concentration per Run 3	-0.003 ppb	-0.012 ppb	-0.027 ppb	16.928 ppb	0.001 ppb	0.361 ppb	-0.090 ppb	-0.216 ppb	121.875 %
Recovery Percentage 1	-0.092 %	-0.945 %	-2.945 %	28.334 %	0.227 %	14.850 %	-10.743 %	-4.478 %	
Concentration RSD	129.5 %	44.8 %	23.7 %	21.7 %	26.8 %	18.6 %	18.8 %	6.4 %	5.8 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.058 ppb	0.172 ppb	-0.001 ppb	1.512 ppb	130.466 %	0.001 ppb	0.002 ppb	123.306 %	0.161 ppb
Concentration per Run 1	0.060 ppb	0.143 ppb	-0.001 ppb	1.060 ppb	135.529 %	0.001 ppb	0.002 ppb	128.475 %	0.093 ppb
Concentration per Run 2	0.061 ppb	0.216 ppb	-0.002 ppb	1.578 ppb	129.095 %	0.000 ppb	0.001 ppb	123.765 %	0.164 ppb
Concentration per Run 3	0.054 ppb	0.156 ppb	0.000 ppb	1.898 ppb	126.773 %	0.001 ppb	0.003 ppb	117.678 %	0.225 ppb
Recovery Percentage 1	11.666 %	3.432 %	-0.011 %	75.601 %		0.137 %	0.965 %		4.017 %
Concentration RSD	6.8 %	22.8 %	55.5 %	27.9 %	3.5 %	103.5 %	41.3 %	4.4 %	41.1 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.001 ppb	116.956 %	113.669 %	0.275 ppb	-0.013 ppb	118.688 %
Concentration per Run 1	-0.001 ppb	121.259 %	119.055 %	0.256 ppb	-0.013 ppb	117.783 %
Concentration per Run 2	-0.003 ppb	116.783 %	112.685 %	0.304 ppb	-0.013 ppb	122.246 %
Concentration per Run 3	0.007 ppb	112.826 %	109.267 %	0.266 ppb	-0.013 ppb	116.034 %
Recovery Percentage 1	0.237 %			27.537 %	-1.311 %	
Concentration RSD	461.7 %	3.6 %	4.4 %	9.2 %	2.0 %	2.7 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 53 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1974293-1 CT-6020SL Rack: 1
 Analysis started at: 9/23/2024 5:46:02 PM Vial: 29

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	134.188 %	137.260 %	-0.010 ppb	25.470 ppb	-0.885 ppb	1.213 ppb	-2.713 ppb	5.271 ppb	150.929 %
Concentration per Run 1	132.417 %	144.412 %	-0.014 ppb	23.592 ppb	-0.695 ppb	1.272 ppb	-2.646 ppb	6.533 ppb	148.725 %
Concentration per Run 2	135.090 %	127.207 %	-0.008 ppb	26.281 ppb	-0.865 ppb	1.007 ppb	-3.722 ppb	3.560 ppb	151.103 %
Concentration per Run 3	135.057 %	140.162 %	-0.009 ppb	26.539 ppb	-1.095 ppb	1.359 ppb	-1.771 ppb	5.719 ppb	152.960 %
Concentration RSD	1.1 %	6.5 %	35.6 %	6.4 %	22.7 %	15.1 %	36.0 %	29.1 %	1.4 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	-0.017 ppb	-0.015 ppb	-0.056 ppb	4.473 ppb	0.002 ppb	-0.322 ppb	-0.119 ppb	-0.241 ppb	129.027 %
Concentration per Run 1	-0.027 ppb	-0.013 ppb	-0.053 ppb	3.406 ppb	0.001 ppb	-0.337 ppb	-0.125 ppb	-0.258 ppb	131.069 %
Concentration per Run 2	-0.016 ppb	-0.015 ppb	-0.062 ppb	5.471 ppb	0.001 ppb	-0.308 ppb	-0.113 ppb	-0.217 ppb	122.153 %
Concentration per Run 3	-0.010 ppb	-0.018 ppb	-0.053 ppb	4.541 ppb	0.003 ppb	-0.321 ppb	-0.121 ppb	-0.247 ppb	133.858 %
Concentration RSD	52.1 %	17.5 %	9.3 %	23.1 %	42.0 %	4.7 %	5.1 %	8.9 %	4.7 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.008 ppb	0.043 ppb	0.001 ppb	0.384 ppb	128.509 %	-0.002 ppb	0.001 ppb	121.443 %	0.071 ppb
Concentration per Run 1	0.007 ppb	0.023 ppb	0.001 ppb	0.244 ppb	127.874 %	-0.002 ppb	0.001 ppb	122.753 %	0.043 ppb
Concentration per Run 2	0.011 ppb	0.033 ppb	0.001 ppb	0.385 ppb	126.332 %	-0.002 ppb	0.001 ppb	116.974 %	0.070 ppb
Concentration per Run 3	0.006 ppb	0.073 ppb	0.000 ppb	0.523 ppb	131.321 %	-0.002 ppb	0.001 ppb	124.604 %	0.100 ppb
Concentration RSD	31.4 %	62.5 %	57.3 %	36.3 %	2.0 %	17.1 %	42.2 %	3.3 %	40.8 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.015 ppb	114.917 %	111.016 %	0.067 ppb	-0.026 ppb	114.911 %
Concentration per Run 1	0.008 ppb	114.326 %	113.068 %	0.044 ppb	-0.025 ppb	114.623 %
Concentration per Run 2	0.016 ppb	113.456 %	108.342 %	0.081 ppb	-0.026 ppb	113.899 %
Concentration per Run 3	0.020 ppb	116.969 %	111.640 %	0.076 ppb	-0.025 ppb	116.210 %
Concentration RSD	40.7 %	1.6 %	2.2 %	30.3 %	1.8 %	1.0 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 54 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: WG1974293-2D10 CT-6020SL Rack: 1
 Analysis started at: 9/23/2024 5:50:40 PM Vial: 30

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	136.089 %	141.309 %	4.632 ppb	1,060.074 ppb	991.551 ppb	189.211 ppb	1,014.891 ppb	913.070 ppb	148.557 %
Concentration per Run 1	134.370 %	129.029 %	4.628 ppb	1,150.970 ppb	1,075.350 ppb	205.450 ppb	1,097.377 ppb	999.499 ppb	146.510 %
Concentration per Run 2	137.866 %	144.716 %	4.608 ppb	1,010.823 ppb	939.690 ppb	178.915 ppb	955.984 ppb	848.621 ppb	149.187 %
Concentration per Run 3	136.031 %	150.181 %	4.660 ppb	1,018.429 ppb	959.613 ppb	183.267 ppb	991.313 ppb	891.089 ppb	149.973 %
Concentration RSD	1.3 %	7.8 %	0.6 %	7.4 %	7.4 %	7.5 %	7.3 %	8.5 %	1.2 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	46.518 ppb	18.574 ppb	48.447 ppb	105.741 ppb	51.528 ppb	51.996 ppb	26.220 ppb	51.625 ppb	128.751 %
Concentration per Run 1	49.644 ppb	19.894 ppb	51.724 ppb	113.038 ppb	55.004 ppb	55.368 ppb	27.570 ppb	55.333 ppb	121.770 %
Concentration per Run 2	44.736 ppb	17.817 ppb	46.070 ppb	101.099 ppb	49.830 ppb	50.671 ppb	25.664 ppb	49.857 ppb	129.922 %
Concentration per Run 3	45.174 ppb	18.010 ppb	47.547 ppb	103.085 ppb	49.748 ppb	49.948 ppb	25.427 ppb	49.685 ppb	134.559 %
Concentration RSD	5.8 %	6.2 %	6.1 %	6.0 %	5.8 %	5.7 %	4.5 %	6.2 %	5.0 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	12.157 ppb	11.559 ppb	92.074 ppb	102.275 ppb	125.849 %	5.182 ppb	5.353 ppb	119.672 %	41.148 ppb
Concentration per Run 1	12.927 ppb	12.416 ppb	98.009 ppb	110.986 ppb	115.599 %	5.568 ppb	5.778 ppb	109.220 %	44.452 ppb
Concentration per Run 2	11.830 ppb	10.959 ppb	88.679 ppb	99.057 ppb	128.216 %	5.037 ppb	5.133 ppb	121.865 %	39.667 ppb
Concentration per Run 3	11.714 ppb	11.300 ppb	89.535 ppb	96.783 ppb	133.732 %	4.940 ppb	5.149 ppb	127.930 %	39.326 ppb
Concentration RSD	5.5 %	6.6 %	5.6 %	7.5 %	7.4 %	6.5 %	6.9 %	8.0 %	7.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	203.849 ppb	113.039 %	108.980 %	13.065 ppb	54.114 ppb	109.567 %
Concentration per Run 1	215.965 ppb	104.423 %	100.726 %	13.909 ppb	58.227 ppb	100.877 %
Concentration per Run 2	198.702 ppb	116.458 %	110.911 %	12.794 ppb	52.108 ppb	111.950 %
Concentration per Run 3	196.880 ppb	118.237 %	115.303 %	12.492 ppb	52.008 ppb	115.874 %
Concentration RSD	5.2 %	6.6 %	6.9 %	5.7 %	6.6 %	7.1 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 55 User name ALPHALAB\Metals-Instrument Comment <Comment>
 Analysis label: WG1974293-3D10 CT-6020SL Rack 1
 Analysis started at: 9/23/2024 5:56:23 PM Vial 31

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	136.348 %	142.371 %	4.708 ppb	1,079.155 ppb	1,012.133 ppb	195.158 ppb	1,030.112 ppb	917.652 ppb	153.209 %
Concentration per Run 1	134.888 %	138.239 %	4.686 ppb	1,096.531 ppb	1,024.418 ppb	201.788 ppb	1,070.234 ppb	960.301 ppb	152.880 %
Concentration per Run 2	137.117 %	143.097 %	4.656 ppb	1,055.598 ppb	993.361 ppb	189.662 ppb	996.993 ppb	853.079 ppb	154.048 %
Concentration per Run 3	137.038 %	145.778 %	4.782 ppb	1,085.337 ppb	1,018.620 ppb	194.023 ppb	1,023.107 ppb	939.575 ppb	152.700 %
Concentration RSD	0.9 %	2.7 %	1.4 %	2.0 %	1.6 %	3.1 %	3.6 %	6.2 %	0.5 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	47.091 ppb	18.824 ppb	49.053 ppb	110.616 ppb	51.789 ppb	52.253 ppb	26.505 ppb	52.605 ppb	130.698 %
Concentration per Run 1	48.920 ppb	19.484 ppb	51.300 ppb	114.269 ppb	53.189 ppb	53.979 ppb	27.777 ppb	54.712 ppb	125.716 %
Concentration per Run 2	46.307 ppb	18.696 ppb	47.854 ppb	106.502 ppb	51.215 ppb	51.434 ppb	25.974 ppb	51.675 ppb	130.465 %
Concentration per Run 3	46.044 ppb	18.292 ppb	48.005 ppb	111.077 ppb	50.963 ppb	51.345 ppb	25.764 ppb	51.428 ppb	135.915 %
Concentration RSD	3.4 %	3.2 %	4.0 %	3.5 %	2.4 %	2.9 %	4.2 %	3.5 %	3.9 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	12.163 ppb	11.669 ppb	92.935 ppb	103.462 ppb	127.169 %	5.195 ppb	5.382 ppb	120.144 %	46.401 ppb
Concentration per Run 1	12.635 ppb	12.166 ppb	96.181 ppb	108.452 ppb	119.323 %	5.474 ppb	5.690 ppb	113.137 %	48.545 ppb
Concentration per Run 2	12.009 ppb	11.334 ppb	90.393 ppb	101.083 ppb	130.290 %	5.062 ppb	5.215 ppb	123.291 %	44.547 ppb
Concentration per Run 3	11.846 ppb	11.508 ppb	92.233 ppb	100.851 ppb	131.893 %	5.048 ppb	5.241 ppb	124.005 %	46.111 ppb
Concentration RSD	3.4 %	3.8 %	3.2 %	4.2 %	5.4 %	4.7 %	5.0 %	5.1 %	4.3 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	204.248 ppb	114.294 %	110.477 %	13.018 ppb	53.639 ppb	111.538 %
Concentration per Run 1	211.552 ppb	107.745 %	102.585 %	13.640 ppb	55.945 ppb	106.141 %
Concentration per Run 2	198.262 ppb	117.697 %	113.190 %	12.832 ppb	52.907 ppb	113.248 %
Concentration per Run 3	202.930 ppb	117.442 %	115.656 %	12.581 ppb	52.065 ppb	115.223 %
Concentration RSD	3.3 %	5.0 %	6.3 %	4.3 %	3.8 %	4.3 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 56 User name ALPHALAB\Metals-Instrument Comment <Comment>
 Analysis label: wg1972628-2D20 A2-6020T Rack 1
 Analysis started at: 9/23/2024 6:03:47 PM Vial 33

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	135.587 %	151.514 %	4.491 ppb	1,068.127 ppb	982.055 ppb	195.299 ppb	1,034.369 ppb	912.402 ppb	163.339 %
Concentration per Run 1	134.281 %	157.468 %	4.491 ppb	1,034.905 ppb	959.967 ppb	195.058 ppb	1,042.148 ppb	894.286 ppb	162.520 %
Concentration per Run 2	135.139 %	148.511 %	4.485 ppb	1,092.343 ppb	1,001.762 ppb	198.962 ppb	1,027.390 ppb	937.690 ppb	162.577 %
Concentration per Run 3	137.341 %	148.562 %	4.497 ppb	1,077.134 ppb	984.436 ppb	191.878 ppb	1,033.569 ppb	905.231 ppb	164.921 %
Concentration RSD	1.2 %	3.4 %	0.1 %	2.8 %	2.1 %	1.8 %	0.7 %	2.5 %	0.8 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	44.985 ppb	17.759 ppb	47.348 ppb	101.669 ppb	48.698 ppb	49.124 ppb	24.495 ppb	46.103 ppb	140.448 %
Concentration per Run 1	43.122 ppb	16.809 ppb	45.240 ppb	96.794 ppb	45.475 ppb	45.987 ppb	22.895 ppb	43.660 ppb	150.747 %
Concentration per Run 2	46.389 ppb	18.319 ppb	48.660 ppb	104.059 ppb	50.226 ppb	50.326 ppb	25.186 ppb	47.297 ppb	136.285 %
Concentration per Run 3	45.444 ppb	18.149 ppb	48.146 ppb	104.154 ppb	50.393 ppb	51.059 ppb	25.404 ppb	47.353 ppb	134.313 %
Concentration RSD	3.7 %	4.7 %	3.9 %	4.2 %	5.7 %	5.6 %	5.7 %	4.6 %	6.4 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	10.963 ppb	10.231 ppb	92.355 ppb	102.968 ppb	133.956 %	4.924 ppb	4.790 ppb	132.016 %	44.322 ppb
Concentration per Run 1	10.336 ppb	9.980 ppb	90.181 ppb	97.421 ppb	139.999 %	4.602 ppb	4.570 ppb	141.073 %	42.269 ppb
Concentration per Run 2	11.166 ppb	10.317 ppb	93.751 ppb	105.819 ppb	131.560 %	5.060 ppb	4.889 ppb	128.809 %	45.285 ppb
Concentration per Run 3	11.388 ppb	10.398 ppb	93.132 ppb	105.665 ppb	130.310 %	5.109 ppb	4.910 ppb	126.167 %	45.413 ppb
Concentration RSD	5.1 %	2.2 %	2.1 %	4.7 %	3.9 %	5.7 %	4.0 %	6.0 %	4.0 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	198.026 ppb	120.280 %	118.497 %	11.945 ppb	49.560 ppb	119.564 %
Concentration per Run 1	188.517 ppb	126.443 %	126.057 %	10.828 ppb	45.629 ppb	127.969 %
Concentration per Run 2	202.608 ppb	117.773 %	116.107 %	12.303 ppb	50.806 ppb	116.799 %
Concentration per Run 3	202.952 ppb	116.624 %	113.326 %	12.703 ppb	52.245 ppb	113.925 %
Concentration RSD	4.2 %	4.5 %	5.6 %	8.3 %	7.0 %	6.2 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 57 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: L2452976-03 CT-6020SL Rack: 1
 Analysis started at: 9/23/2024 6:10:55 PM Vial: 32

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	151.691 %	151.885 %	-0.006 ppb	160,601.633 ppb	37,778.863 ppb	1.617 ppb	4,541.387 ppb	107,380.875 ppb	197.959 %
Concentration per Run 1	150.823 %	156.760 %	-0.006 ppb	150,746.715 ppb	35,627.411 ppb	1.574 ppb	4,213.290 ppb	103,134.030 ppb	198.515 %
Concentration per Run 2	151.884 %	147.853 %	-0.003 ppb	167,330.118 ppb	38,899.414 ppb	1.542 ppb	4,718.932 ppb	110,396.678 ppb	197.497 %
Concentration per Run 3	152.367 %	151.041 %	-0.009 ppb	163,728.065 ppb	38,809.763 ppb	1.735 ppb	4,691.940 ppb	108,611.916 ppb	197.866 %
Concentration RSD	0.5 %	3.0 %	43.5 %	5.4 %	4.9 %	6.4 %	6.3 %	3.5 %	0.3 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.418 ppb	0.343 ppb	553.080 ppb	17.262 ppb	1.262 ppb	1.606 ppb	1.425 ppb	2.563 ppb	138.553 %
Concentration per Run 1	0.366 ppb	0.329 ppb	514.658 ppb	15.924 ppb	1.170 ppb	1.457 ppb	1.245 ppb	2.268 ppb	145.475 %
Concentration per Run 2	0.429 ppb	0.341 ppb	581.042 ppb	18.464 ppb	1.303 ppb	1.679 ppb	1.487 ppb	2.640 ppb	136.359 %
Concentration per Run 3	0.459 ppb	0.358 ppb	563.538 ppb	17.400 ppb	1.312 ppb	1.681 ppb	1.544 ppb	2.780 ppb	133.824 %
Concentration RSD	11.4 %	4.3 %	6.2 %	7.4 %	6.3 %	8.0 %	11.1 %	10.3 %	4.4 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.175 ppb	0.306 ppb	229.097 ppb	3.415 ppb	125.113 %	0.006 ppb	0.172 ppb	127.252 %	0.695 ppb
Concentration per Run 1	0.137 ppb	0.267 ppb	211.536 ppb	2.782 ppb	130.831 %	0.003 ppb	0.169 ppb	131.913 %	0.576 ppb
Concentration per Run 2	0.178 ppb	0.327 ppb	237.005 ppb	3.429 ppb	121.712 %	0.007 ppb	0.171 ppb	124.664 %	0.718 ppb
Concentration per Run 3	0.210 ppb	0.324 ppb	238.749 ppb	4.034 ppb	122.795 %	0.007 ppb	0.178 ppb	125.180 %	0.791 ppb
Concentration RSD	20.8 %	11.1 %	6.6 %	18.3 %	4.0 %	35.4 %	2.8 %	3.2 %	15.7 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	79.927 ppb	116.654 %	113.950 %	0.041 ppb	0.018 ppb	100.371 %
Concentration per Run 1	75.014 ppb	121.199 %	119.583 %	0.032 ppb	0.012 ppb	107.402 %
Concentration per Run 2	82.619 ppb	114.255 %	110.987 %	0.043 ppb	0.021 ppb	98.496 %
Concentration per Run 3	82.149 ppb	114.509 %	111.281 %	0.047 ppb	0.022 ppb	95.214 %
Concentration RSD	5.3 %	3.4 %	4.3 %	18.1 %	31.6 %	6.3 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 58 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
Analysis label: CCV Rack: 0
Analysis started at: 9/23/2024 6:15:43 PM Vial: 9

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	134.265 %	147.448 %	55.214 ppb	6,063.751 ppb	6,060.022 ppb	60.366 ppb	6,198.104 ppb	6,087.246 ppb	169.310 %
Concentration per Run 1	132.663 %	150.738 %	55.483 ppb	5,875.748 ppb	5,874.712 ppb	56.277 ppb	6,042.095 ppb	5,887.647 ppb	166.989 %
Concentration per Run 2	134.295 %	139.605 %	55.174 ppb	6,126.215 ppb	6,115.370 ppb	60.712 ppb	6,244.539 ppb	6,009.984 ppb	168.904 %
Concentration per Run 3	135.837 %	152.003 %	54.985 ppb	6,189.289 ppb	6,189.984 ppb	64.110 ppb	6,307.676 ppb	6,364.106 ppb	172.038 %
Recovery Percentage 1			92.023 %	101.063 %	101.000 %	100.610 %	103.302 %	101.454 %	
Concentration RSD	1.2 %	4.6 %	0.5 %	2.7 %	2.7 %	6.5 %	2.2 %	4.1 %	1.5 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	55.382 ppb	54.155 ppb	56.430 ppb	5,722.791 ppb	58.984 ppb	58.955 ppb	58.868 ppb	58.862 ppb	136.552 %
Concentration per Run 1	53.534 ppb	52.510 ppb	53.915 ppb	5,577.084 ppb	58.119 ppb	58.601 ppb	59.152 ppb	58.125 ppb	135.355 %
Concentration per Run 2	56.574 ppb	55.520 ppb	56.544 ppb	5,775.012 ppb	60.110 ppb	60.480 ppb	60.136 ppb	59.760 ppb	133.542 %
Concentration per Run 3	56.038 ppb	54.436 ppb	58.830 ppb	5,816.276 ppb	58.723 ppb	57.783 ppb	57.315 ppb	58.700 ppb	140.760 %
Recovery Percentage 1	92.303 %	90.259 %	94.049 %	95.380 %	98.306 %	98.258 %	98.113 %	98.103 %	
Concentration RSD	2.9 %	2.8 %	4.4 %	2.2 %	1.7 %	2.3 %	2.4 %	1.4 %	2.7 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	59.058 ppb	58.298 ppb	58.362 ppb	61.582 ppb	128.190 %	59.846 ppb	58.497 ppb	125.919 %	58.682 ppb
Concentration per Run 1	57.939 ppb	55.934 ppb	55.730 ppb	60.006 ppb	131.840 %	58.359 ppb	56.598 ppb	127.000 %	56.359 ppb
Concentration per Run 2	59.741 ppb	57.635 ppb	58.658 ppb	62.705 ppb	125.624 %	60.954 ppb	59.860 ppb	122.616 %	59.452 ppb
Concentration per Run 3	59.493 ppb	61.324 ppb	60.698 ppb	62.034 ppb	127.107 %	60.226 ppb	59.034 ppb	128.141 %	60.235 ppb
Recovery Percentage 1	98.430 %	97.163 %	97.270 %	102.637 %		99.744 %	97.495 %		97.803 %
Concentration RSD	1.7 %	4.7 %	4.3 %	2.3 %	2.5 %	2.2 %	2.9 %	2.3 %	3.5 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	60.076 ppb	117.200 %	115.086 %	60.295 ppb	57.515 ppb	114.420 %
Concentration per Run 1	57.599 ppb	118.597 %	116.172 %	56.519 ppb	54.142 ppb	119.146 %
Concentration per Run 2	60.862 ppb	115.765 %	113.552 %	62.013 ppb	58.793 ppb	111.812 %
Concentration per Run 3	61.767 ppb	117.238 %	115.534 %	62.353 ppb	59.610 ppb	112.303 %
Recovery Percentage 1	100.127 %			100.492 %	95.859 %	
Concentration RSD	3.6 %	1.2 %	1.2 %	5.4 %	5.1 %	3.6 %

Alpha ICPMSQ Data with SRD

9/23/2024 6:26:40 PM



Analysis index: 59 User name: ALPHALAB\Metals-Instrument Comment: <Comment>
 Analysis label: CCB Rack: 0
 Analysis started at: 9/23/2024 6:20:25 PM Vial: 10

Category	6Li (STD AGD)	6Li (KED AGD)	9Be (STD AGD)	23Na (KED AGD)	24Mg (KED AGD)	27Al (KED AGD)	39K (KED AGD)	44Ca (KED AGD)	45Sc (STD AGD)
Concentration average	133.946 %	146.757 %	-0.007 ppb	30.659 ppb	-1.938 ppb	-0.521 ppb	-0.506 ppb	0.262 ppb	158.131 %
Concentration per Run 1	131.485 %	143.704 %	-0.005 ppb	30.393 ppb	-1.892 ppb	-0.583 ppb	-1.761 ppb	-0.335 ppb	157.214 %
Concentration per Run 2	134.563 %	144.918 %	-0.006 ppb	29.894 ppb	-1.946 ppb	-0.474 ppb	-0.275 ppb	-0.168 ppb	157.707 %
Concentration per Run 3	135.791 %	151.649 %	-0.010 ppb	31.689 ppb	-1.977 ppb	-0.505 ppb	0.517 ppb	1.289 ppb	159.473 %
Recovery Percentage 1			-1.465 %	30.659 %	-2.769 %	-5.209 %	-0.506 %	0.262 %	
Concentration RSD	1.7 %	2.9 %	34.4 %	3.0 %	2.2 %	10.8 %	228.3 %	340.9 %	0.8 %

Category	51V (KED AGD)	52Cr (KED AGD)	55Mn (KED AGD)	57Fe (KED AGD)	59Co (KED AGD)	60Ni (KED AGD)	65Cu (KED AGD)	66Zn (KED AGD)	74Ge (KED AGD)
Concentration average	0.014 ppb	-0.011 ppb	-0.016 ppb	12.820 ppb	0.000 ppb	0.303 ppb	-0.066 ppb	-0.242 ppb	136.276 %
Concentration per Run 1	-0.008 ppb	-0.008 ppb	-0.020 ppb	10.580 ppb	-0.001 ppb	0.274 ppb	-0.069 ppb	-0.243 ppb	135.609 %
Concentration per Run 2	0.005 ppb	-0.015 ppb	-0.019 ppb	12.964 ppb	0.000 ppb	0.336 ppb	-0.044 ppb	-0.245 ppb	131.813 %
Concentration per Run 3	0.045 ppb	-0.011 ppb	-0.008 ppb	14.918 ppb	0.001 ppb	0.300 ppb	-0.085 ppb	-0.236 ppb	141.407 %
Recovery Percentage 1	0.280 %	-1.135 %	-1.551 %	25.641 %	0.010 %	15.174 %	-6.603 %	-4.831 %	
Concentration RSD	198.6 %	28.8 %	41.0 %	16.9 %	2,209.7 %	10.3 %	31.5 %	2.0 %	3.5 %

Category	75As (KED AGD)	78Se (KED AGD)	88Sr (KED AGD)	95Mo (KED AGD)	103Rh (KED AGD)	107Ag (KED AGD)	111Cd (KED AGD)	115In (KED AGD)	121Sb (KED AGD)
Concentration average	0.052 ppb	0.204 ppb	0.000 ppb	1.667 ppb	131.020 %	0.004 ppb	0.003 ppb	127.204 %	0.349 ppb
Concentration per Run 1	0.044 ppb	0.228 ppb	-0.001 ppb	1.194 ppb	130.970 %	0.004 ppb	0.002 ppb	125.684 %	0.250 ppb
Concentration per Run 2	0.047 ppb	0.182 ppb	0.000 ppb	1.751 ppb	130.078 %	0.005 ppb	0.005 ppb	122.410 %	0.354 ppb
Concentration per Run 3	0.064 ppb	0.202 ppb	0.000 ppb	2.056 ppb	132.013 %	0.003 ppb	0.003 ppb	133.517 %	0.444 ppb
Recovery Percentage 1	10.365 %	4.079 %	-0.002 %	83.355 %		1.042 %	1.643 %		8.728 %
Concentration RSD	20.7 %	11.3 %	345.8 %	26.2 %	0.7 %	31.1 %	36.5 %	4.5 %	27.8 %

Category	137Ba (KED AGD)	159Tb (KED AGD)	175Lu (KED AGD)	205Tl (KED AGD)	208Pb (KED AGD)	209Bi (KED AGD)
Concentration average	0.008 ppb	117.237 %	114.406 %	0.293 ppb	-0.010 ppb	116.762 %
Concentration per Run 1	0.017 ppb	116.195 %	113.154 %	0.268 ppb	-0.010 ppb	119.232 %
Concentration per Run 2	0.007 ppb	116.440 %	112.326 %	0.330 ppb	-0.010 ppb	114.501 %
Concentration per Run 3	0.001 ppb	119.076 %	117.739 %	0.281 ppb	-0.010 ppb	116.552 %
Recovery Percentage 1	1.646 %			29.287 %	-0.969 %	
Concentration RSD	97.8 %	1.4 %	2.5 %	11.2 %	1.0 %	2.0 %

Interference Check Solutions (ICP-MS)

Solution Component	Solution A Concentration (ug/L)	Solution AB Concentration (ug/L)
Al	20,000	20,000
Ca	60,000	60,000
Fe	50,000	50,000
Mg	20,000	20,000
Na	50,000	50,000
K	20,000	20,000
Mo	400	400
As	0.0	20
Cd	0.0	20
Cr	0.0	40
Co	0.0	40
Cu	0.0	40
Mn	0.0	40
Ni	0.0	40
Se	0.0	20
Ag	0.0	10
V	0.0	40
Zn	0.0	20

**LCS & MS Concentrations
(ICP-MS)**

Element	Liquid Concentration (mg/L)
Aluminum	2.00
Antimony	0.5
Arsenic	0.12
Barium	2.00
Beryllium	0.05
Cadmium	0.051
Calcium	10.0
Chromium	0.20
Cobalt	0.50
Copper	0.25
Iron	1.00
Lead	0.51
Magnesium	10.0
Manganese	0.50
Molybdenum	1.00
Nickel	0.50
Potassium	10.0
Selenium	0.12
Silver	0.05
Sodium	10.0
Thallium	0.12
Vanadium	0.50
Zinc	0.50

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D102-540
Certificate Issue Date: June 22, 2018
Expiration Date: January 31, 2022
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 030512.

CERTIFICATION

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8160	6.36	3960 - 12400	4080 - 12200
Antimony	120	60.9	9.42	0.822 - 121	12.0 - 166
Arsenic	144	135	5.08	112 - 158	94.6 - 176
Barium	469	443	6.77	366 - 521	332 - 554
Beryllium	207	197	5.86	164 - 229	148 - 246
Boron	213	174	12.6	127 - 221	105 - 244
Cadmium	224	204	6.65	169 - 240	153 - 256
Calcium	5190	4830	9.12	3950 - 5700	3510 - 6150
Chromium	138	132	8.56	109 - 155	92.2 - 171
Cobalt	182	179	7.93	151 - 207	134 - 224
Copper	191	184	6.72	155 - 213	138 - 230
Iron	15000	14400	10.7	8770 - 20000	5120 - 23600
Lead	225	216	7.72	178 - 254	159 - 274
Magnesium	2570	2340	6.13	1780 - 2900	1460 - 3230
Manganese	331	323	6.71	266 - 380	242 - 404
Mercury	16.8	13.2	16.0	8.64 - 17.7	7.89 - 18.5
Molybdenum	193	175	2.39	141 - 209	125 - 226
Nickel	163	152	5.95	126 - 178	106 - 197
Potassium	2420	2050	6.31	1440 - 2660	1210 - 2890
Selenium	81.9	74.9	4.13	59.3 - 90.5	47.0 - 103
Silver	57.6	53.9	9.00	43.0 - 64.8	37.8 - 70.0
Sodium	161	149	12.1	111 - 188	57.7 - 241
Strontium	100	96.2	4.04	78.1 - 114	69.0 - 123
Thallium	253	232	3.54	188 - 276	168 - 296

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Tin	146	134	10.8	106 - 163	79.5 - 189
Titanium	449	340	7.20	70.2 - 609	44.9 - 711
Uranium	114	113	7.10	85.5 - 140	71.9 - 153
Vanadium	180	172	8.85	137 - 207	126 - 218
Zinc	217	211	6.58	171 - 250	147 - 274

ANALYTICAL VERIFICATION

Parameter	Certified Value ¹	Proficiency Testing Study			NIST Traceability	
		Mean	Recovery ⁵	n	SRM Number	Recovery
	mg/kg	mg/kg	%			%
Aluminum	10100	8160	80.8	138	-	-
Antimony	120	60.9	50.8	135	-	-
Arsenic	144	135	93.8	184	-	-
Barium	469	443	94.5	158	-	-
Beryllium	207	197	95.0	148	-	-
Boron	213	174	81.8	107	-	-
Cadmium	224	204	91.3	199	-	-
Calcium	5190	4830	93.0	122	-	-
Chromium	138	132	95.5	172	-	-
Cobalt	182	179	98.4	140	-	-
Copper	191	184	96.3	183	-	-
Iron	15000	14400	95.6	133	-	-
Lead	225	216	96.2	204	-	-
Magnesium	2570	2340	91.2	122	-	-
Manganese	331	323	97.6	147	-	-
Mercury	16.8	13.2	78.3	128	-	-
Molybdenum	193	175	90.8	143	-	-
Nickel	163	152	93.1	185	-	-
Potassium	2420	2050	84.7	121	-	-
Selenium	81.9	74.9	91.5	163	-	-

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Proficiency Testing Study		n	NIST Traceability	
		Mean	Recovery ⁵		SRM Number	Recovery
	mg/kg	mg/kg	%			%
Silver	57.6	53.9	93.6	150	-	-
Sodium	161	149	92.8	105	-	-
Strontium	100	96.2	96.2	90	-	-
Thallium	253	232	91.6	147	-	-
Tin	146	134	92.0	100	-	-
Titanium	449	340	75.6	93	-	-
Uranium	114	113	98.8	35	-	-
Vanadium	180	172	95.4	139	-	-
Zinc	217	211	97.0	180	-	-

1. The **Certified Values** are the actual "made-to" concentrations confirmed by ERA analytical verification. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor. The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product.

3. The **QC Performance Acceptance Limits (QC PALs™)** are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.

4. The **PT Performance Acceptance Limits (PT PALs™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAC proficiency testing requirements. Use the PT PALs™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

5. The **PT Data/Traceability** data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values. In addition, where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. This product is traceable to the lot numbers of its starting materials. All gravimetric and volumetric measurements related to its manufacture are traceable to NIST through an unbroken chain of comparisons.

Traceability Recovery (%) = [(% recovery certified standard)/(% recovery NIST SRM)]*100

The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

6. For additional information on this product such as intended use, instructions for use, level of homogeneity, and safety information, please refer to the provided Instruction Sheet

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer

Brian Miller

Quality Officer

Matthew Seebeck




ISO/IEC GUIDE 34:2009

ISO/IEC 17025:2005



Page 3 of 3 Lot: D102-540



A Waters Company

Reference Material

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D105-540
Certificate Issue Date: March 19, 2019
Expiration Date: October 12, 2022
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 030512.

CERTIFICATION

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8800	8.32	4600 - 13000	4470 - 13100
Antimony	282	147	7.70	6.17 - 289	28.2 - 366
Arsenic	155	143	6.34	119 - 168	100 - 186
Barium	439	415	5.37	343 - 488	311 - 519
Beryllium	192	179	2.78	149 - 210	134 - 224
Boron	216	160	7.08	113 - 208	96.1 - 238
Cadmium	61.5	56.2	0.528	46.6 - 65.9	42.2 - 70.3
Calcium	5190	4960	6.64	4090 - 5840	3610 - 6310
Chromium	104	101	4.75	83.2 - 118	70.5 - 131
Cobalt	196	189	0.500	158 - 219	141 - 236
Copper	65.0	63.1	2.65	53.1 - 73.1	47.3 - 78.9
Iron	15000	15700	8.94	10100 - 21300	6000 - 25400
Lead	126	125	4.77	103 - 146	89.3 - 160
Magnesium	2570	2410	6.26	1860 - 2970	1520 - 3310
Manganese	387	382	5.37	315 - 449	290 - 474
Mercury	7.76	7.61	13.7	5.53 - 9.69	4.57 - 10.7
Molybdenum	120	107	0.500	86.0 - 128	75.5 - 139
Nickel	117	108	0.514	89.5 - 127	75.7 - 141
Potassium	2420	2110	5.62	1500 - 2720	1260 - 2960
Selenium	84.6	77.9	7.10	61.8 - 94.0	49.2 - 107
Silver	34.6	34.3	8.34	27.8 - 40.9	23.6 - 45.1
Sodium	161	145	6.72	106 - 183	54.3 - 235
Strontium	104	104	3.95	85.1 - 123	74.8 - 133
Thallium	123	113	0.500	91.3 - 134	77.1 - 149

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▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Tin	118	107	0.500	83.5 - 130	61.2 - 152
Titanium	512	421	5.80	114 - 728	0.00 - 854
Uranium	103	104	6.18	79.1 - 128	71.9 - 135
Vanadium	87.3	83.7	8.55	66.8 - 101	54.2 - 113
Zinc	251	240	3.98	194 - 285	168 - 312

ANALYTICAL VERIFICATION

Parameter	Certified Value ¹	Proficiency Testing Study			NIST Traceability	
		Mean	Recovery ⁵	n	SRM Number	Recovery
	mg/kg	mg/kg	%			%
Aluminum	10100	8800	87.1	193	-	-
Antimony	282	147	52.3	216	-	-
Arsenic	155	143	92.5	240	-	-
Barium	439	415	94.6	222	-	-
Beryllium	192	179	93.4	220	-	-
Boron	216	160	74.2	152	-	-
Cadmium	61.5	56.2	91.5	239	-	-
Calcium	5190	4960	95.6	175	-	-
Chromium	104	101	96.8	237	-	-
Cobalt	196	189	96.2	215	-	-
Copper	65.0	63.1	97.1	237	-	-
Iron	15000	15700	105	195	-	-
Lead	126	125	99.0	243	-	-
Magnesium	2570	2410	93.9	177	-	-
Manganese	387	382	98.7	215	-	-
Mercury	7.76	7.61	98.0	157	-	-
Molybdenum	120	107	89.4	216	-	-
Nickel	117	108	92.5	235	-	-
Potassium	2420	2110	87.2	181	-	-
Selenium	84.6	77.9	92.1	231	-	-

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Proficiency Testing Study		n	NIST Traceability	
		Mean	Recovery ⁵		SRM Number	Recovery
	mg/kg	mg/kg	%			%
Silver	34.6	34.3	99.3	216	-	-
Sodium	161	145	89.8	166	-	-
Strontium	104	104	99.9	148	-	-
Thallium	123	113	91.8	215	-	-
Tin	118	107	90.4	164	-	-
Titanium	512	421	82.2	157	-	-
Uranium	103	104	101	61	-	-
Vanadium	87.3	83.7	95.9	214	-	-
Zinc	251	240	95.5	234	-	-

1. The **Certified Values** are the actual "made-to" concentrations confirmed by ERA analytical verification. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this reference material during the period of validity of this certificate.

2. The **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor. The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product.

3. The **QC Performance Acceptance Limits (QC PALs™)** are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.

4. The **PT Performance Acceptance Limits (PT PALs™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAC proficiency testing requirements. Use the PT PALs™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

5. The **PT Data/Traceability** data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values. In addition, where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. This product is traceable to the lot numbers of its starting materials. All gravimetric and volumetric measurements related to its manufacture are traceable to NIST through an unbroken chain of comparisons.

Traceability Recovery (%) = [(% recovery certified standard)/(% recovery NIST SRM)]*100

The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

6. For additional information on this product such as intended use, instructions for use, level of homogeneity, and safety information, please refer to the provided Instruction Sheet

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer

Brian Miller

Quality Officer

Matthew Seebeck



ISO/IEC 17025:2005
ISO/IEC 17025:2005


Page 3 of 3 Lot: D105-540

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D109-540
Certificate Issue Date: March 24, 2020
Expiration Date: October 03, 2023
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 090119.

CERTIFICATION

Parameter	Certified Value ¹	Reference Value ⁷	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8130	2.54	3920 - 12300	4060 - 12200
Antimony	259	134	5.03	4.56 - 264	25.9 - 335
Arsenic	171	156	3.38	129 - 183	109 - 203
Barium	253	239	4.81	197 - 280	179 - 298
Beryllium	179	169	6.59	141 - 198	127 - 212
Boron	114	87.5	10.3	62.5 - 113	52.5 - 125
Cadmium	149	137	5.43	113 - 160	103 - 171
Calcium	5190	4760	3.48	3890 - 5640	3460 - 6070
Chromium	163	154	3.79	126 - 181	108 - 200
Cobalt	127	121	5.07	101 - 141	90.8 - 151
Copper	57.0	54.9	4.13	46.1 - 63.6	41.1 - 68.6
Iron	15000	14100	6.27	8470 - 19700	4920 - 23200
Lead	133	130	3.00	107 - 152	93.3 - 167
Magnesium	2570	2320	3.32	1760 - 2880	1440 - 3200
Manganese	277	269	2.67	221 - 317	199 - 340
Mercury	21.6	20.5	7.72	14.7 - 26.3	12.3 - 28.6
Molybdenum	108	95.4	2.61	76.4 - 114	66.9 - 124
Nickel	58.7	53.9	4.97	44.5 - 63.3	37.7 - 70.0
Potassium	2420	2020	3.06	1410 - 2630	1190 - 2850
Selenium	181	167	5.63	132 - 201	113 - 221
Silver	35.5	33.6	5.20	26.8 - 40.3	23.0 - 44.1
Sodium	161	133	2.76	95.1 - 171	46.5 - 220
Strontium	89.7	87.9	4.59	71.7 - 104	62.8 - 113
Thallium	121	112	5.19	90.3 - 133	76.1 - 147

Certified Reference Material

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value ⁷	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Tin	83.5	74.0	5.42	57.6 - 90.4	39.7 - 108
Titanium	474	333	7.17	48.6 - 617	46.3 - 620
Uranium	51.9	51.9	3.36	39.6 - 64.3	35.9 - 68.0
Vanadium	68.1	62.6	6.00	49.4 - 75.8	37.0 - 88.3
Zinc	165	158	2.34	128 - 188	111 - 205

▪ Certificate of Analysis ▪

ANALYTICAL VERIFICATION

Parameter	Certified Value ¹	Proficiency Testing Study		n	NIST Traceability	
		Mean	Recovery ⁵		SRM Number ⁶	Recovery
	mg/kg	mg/kg	%			%
Aluminum	10100	8130	80.5	196	-	-
Antimony	259	134	51.8	217	-	-
Arsenic	171	156	91.3	243	-	-
Barium	253	239	94.3	230	-	-
Beryllium	179	169	94.6	223	-	-
Boron	114	87.5	76.7	150	-	-
Cadmium	149	137	91.8	249	-	-
Calcium	5190	4760	91.8	184	-	-
Chromium	163	154	94.4	245	-	-
Cobalt	127	121	95.3	221	-	-
Copper	57.0	54.9	96.2	243	-	-
Iron	15000	14100	93.9	199	-	-
Lead	133	130	97.7	251	-	-
Magnesium	2570	2320	90.1	182	-	-
Manganese	277	269	97.2	220	-	-
Mercury	21.6	20.5	94.7	172	-	-
Molybdenum	108	95.4	88.3	218	-	-
Nickel	58.7	53.9	91.8	242	-	-
Potassium	2420	2020	83.5	187	-	-
Selenium	181	167	92.2	235	-	-
Silver	35.5	33.6	94.5	222	-	-
Sodium	161	133	82.7	177	-	-
Strontium	89.7	87.9	98.0	151	-	-
Thallium	121	112	92.2	219	-	-
Tin	83.5	74.0	88.6	170	-	-
Titanium	474	333	70.3	157	-	-
Uranium	51.9	51.9	100	60	-	-
Vanadium	68.1	62.6	91.9	213	-	-
Zinc	165	158	95.8	238	-	-

▪ Certificate of Analysis ▪

1. The **Certified Values** are the actual gravimetric/volumetric "made-to" concentrations confirmed by ERA analytical verification. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The **Uncertainty** represents an expanded uncertainty and approximates a 95% confidence interval. The uncertainty is based on the characterization, homogeneity and stability characteristics of the product, multiplied by a coverage factor ($k=2$). The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product. The formula used to calculate the expanded uncertainty is:

$$U_{\text{expanded}} = k * \text{SQRT}((U_{\text{char}})^2 + (U_{\text{homogen}})^2 + (U_{\text{LTS}})^2 + (U_{\text{STS}})^2 + (U_{\text{RSS}})^2)$$

Where:

U_{expanded} = Expanded uncertainty.

k = Coverage factor.

U_{char} = Combined standard uncertainty of the manufacturing and/or analytical verification assessment.

U_{homogen} = Standard uncertainty of the homogeneity assessment.

U_{LTS} = Standard uncertainty associated with long-term stability.

U_{STS} = Standard uncertainty associated with short-term (transport) stability.

U_{RSS} = Standard uncertainty associated with repeated sampling of the product (where permitted by product use instructions).

3. The **QC Performance Acceptance Limits (QC PALs™)** are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.

4. The **PT Performance Acceptance Limits (PT PALs™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAP proficiency testing requirements. Use the PT PALs™ when analyzing this certified reference material alongside USEPA and NELAP compliant PT study materials. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and therefore, the acceptance limits of this certified reference material and any PT study material may differ relative to their difference in concentrations.

5. The **PT Performance Data** include the mean value, percent recovery and number of data points reported by laboratories in our Proficiency Testing study compared to the Certified Values. In the event this lot was not used in a proficiency testing scheme, the data displayed was generated internally by ERA.

6. Where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. **Analytical Traceability Recovery (%)** = $[(\% \text{ recovery ERA certified reference material}) / (\% \text{ recovery NIST SRM})] * 100$

The traceability data shown were compiled by analyzing this ERA certified reference material and/or its associated stock solution(s) against the applicable NIST SRMs.

7. The **Reference Values** are equal to the mean recoveries for the parameters as determined in an interlaboratory round robin study. The **Reference Values** represent the expected performance for the analytes in this standard. ERA recommends using the **Reference Values** when assessing or evaluating your results.

8. **Metrological Traceability.** This certified reference material is metrologically traceable to NIST mass reference materials through an unbroken chain of comparisons.

9. For additional information on this product such as intended use, storage information, instructions for use, minimum sample size, and safety information, please refer to the Product Use Instructions provided.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer

Brian Miller

Quality Officer

Matthew Seebeck

Brian Miller

Matthew Seebeck





A Waters Company

Certified Reference Material

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D113-540
Certificate Issue Date: March 23, 2021
Expiration Date: October 13, 2024
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 090119.

CERTIFICATION



Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8630	12.0	4420 - 12800	4370 - 12900
Antimony	256	129	16.8	0.742 - 257	25.6 - 323
Arsenic	91.6	84.5	15.1	70.0 - 99.0	59.2 - 110
Barium	259	249	9.94	206 - 292	187 - 311
Beryllium	175	163	3.89	135 - 191	122 - 204
Boron	95.7	76.7	12.8	55.7 - 97.7	48.0 - 107
Cadmium	107	99.0	11.5	82.2 - 116	74.2 - 124
Calcium	5190	4760	11.8	3890 - 5640	3460 - 6070
Chromium	129	122	14.6	101 - 144	85.7 - 159
Cobalt	63.6	61.7	11.5	51.9 - 71.6	46.3 - 77.2
Copper	62.3	61.5	12.3	51.9 - 71.0	46.1 - 76.8
Iron	15000	14500	15.7	8860 - 20100	5190 - 23800
Lead	122	123	13.9	103 - 144	88.3 - 158
Lithium	6.42	7.30	18.7	5.13 - 9.48	3.20 - 11.4
Magnesium	2570	2360	8.87	1810 - 2920	1480 - 3250
Manganese	470	456	13.4	375 - 538	350 - 563
Mercury	22.1	18.9	14.5	13.0 - 24.8	11.3 - 26.4
Molybdenum	80.1	72.8	11.0	58.7 - 87.0	50.5 - 95.2
Nickel	143	135	14.2	112 - 158	94.7 - 176
Potassium	2420	2090	8.21	1480 - 2700	1240 - 2940
Selenium	128	121	11.7	96.9 - 146	80.4 - 162
Silver	45.4	44.1	6.69	35.5 - 52.8	30.7 - 57.6
Sodium	161	136	9.34	97.4 - 174	48.1 - 223
Strontium	82.2	82.3	8.42	67.4 - 97.1	58.6 - 106

Page 1 of 4 Lot: D113-540

16341 Table Mountain Pkwy ▪ Golden, CO 80403 ▪ T: 800.372.0122 ▪ 303.431.8454 ▪ www.eraqc.com

Certified Reference Material

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Thallium	154	144	7.54	117 - 171	101 - 187
Tin	89.7	79.8	14.0	62.2 - 97.4	43.5 - 116
Titanium	705	546	10.3	123 - 969	118 - 974
Uranium	29.5	30.9	3.38	23.9 - 37.9	21.3 - 40.5
Vanadium	196	186	14.2	148 - 224	138 - 235
Zinc	307	295	10.4	240 - 351	207 - 384

Calculation of Method 6020 Metals

Aqueous Samples

The instrument will calculate the concentration ($\mu\text{g/L}$). This value is divided by 1000 to convert the units to mg/L . If the sample is diluted (DF), the result is multiplied by the DF to generate the final result.

$$\text{Result, mg/L} = C_s \times (1\text{mg}/1000\mu\text{g}) \times (\text{DF})$$

Where:

C_s = Concentration of sample ($\mu\text{g/L}$)

DF = Dilution Factor

Sample List Summary:

Instrument ID: iCAP Q

Index:	Label:	Rack	Vial	Main Runs:	Survey Runs:	Start Time:
1	Rinse	0	1	3	1	9/23/2024 1:22:06 PM
2	CAL LOT #M24-1045	0	1	3	1	9/23/2024 1:26:42 PM
3	Blank NTB ICPMSQ	4	49	3	1	9/23/2024 1:31:18 PM
4	0.2/20 Cal	0	2	3	1	9/23/2024 1:36:00 PM
5	1/100 Cal	0	3	3	1	9/23/2024 1:40:37 PM
6	10/1000 Cal	0	4	3	1	9/23/2024 1:45:15 PM
7	60/6000 Cal	0	5	3	1	9/23/2024 1:49:53 PM
8	120/12000 Cal	0	6	3	1	9/23/2024 1:54:33 PM
9	Sr 200ppb	4	55	3	1	9/23/2024 1:59:42 PM
10	ICV	0	7	3	1	9/23/2024 2:04:24 PM
11	ICB	0	10	3	1	9/23/2024 2:09:04 PM
12	ICSA	4	53	3	1	9/23/2024 2:14:10 PM
13	LDR Check	4	1	3	1	9/23/2024 2:18:52 PM
14	Rinse	0	1	3	1	9/23/2024 2:23:33 PM
15	CCV	0	9	3	1	9/23/2024 2:28:09 PM
16	CCB	0	10	3	1	9/23/2024 2:32:50 PM
17	WG1973497-1 6020TL	1	1	3	1	9/23/2024 2:40:48 PM
18	WG1973497-2d10 6020TL	1	2	3	1	9/23/2024 2:45:25 PM
19	I2453005-01 6020TL	1	3	3	1	9/23/2024 2:50:02 PM
20	WG1973497-3d10 6020TL	1	4	3	1	9/23/2024 2:54:40 PM
21	WG1973497-4d10 6020TL	1	5	3	1	9/23/2024 2:59:18 PM
22	WG1973497-5d10 6020TL	1	6	3	1	9/23/2024 3:03:56 PM
23	WG1973497-6d5 6020TL	1	7	3	1	9/23/2024 3:08:35 PM
24	I2452357-01 6020TL	1	13	3	1	9/23/2024 3:13:13 PM
25	I2452357-01D10 6020TL	1	19	3	1	9/23/2024 3:19:02 PM
26	CCV	0	9	3	1	9/23/2024 3:24:22 PM
27	CCB	0	10	3	1	9/23/2024 3:29:03 PM
28	I2453005-04 6020TL	1	16	3	1	9/23/2024 3:36:37 PM
29	I2453058-01 6020TL	1	8	3	1	9/23/2024 3:41:15 PM
30	WG1973497-7d10 6020TL	1	9	3	1	9/23/2024 3:45:54 PM
31	WG1973497-8d10 6020TL	1	10	3	1	9/23/2024 3:50:34 PM
32	WG1973497-9d10 6020TL	1	11	3	1	9/23/2024 3:55:14 PM
33	WG1973497-10d5 6020TL	1	12	3	1	9/23/2024 3:59:54 PM
34	I2453005-02 6020TL	1	14	3	1	9/23/2024 4:04:34 PM
35	I2453005-03 6020TL	1	15	3	1	9/23/2024 4:09:11 PM
36	I2453058-02 6020TL	1	17	3	1	9/23/2024 4:13:48 PM
37	I2453058-03 6020TL	1	18	3	1	9/23/2024 4:18:25 PM
38	CCV	0	9	3	1	9/23/2024 4:23:03 PM
39	CCB	0	10	3	1	9/23/2024 4:27:45 PM
40	I2452860-01 CT-6020TL	1	20	3	1	9/23/2024 4:36:41 PM
41	I2452860-02 CT-6020TL	1	21	3	1	9/23/2024 4:41:19 PM
42	I2452860-03 CT-6020TL	1	22	3	1	9/23/2024 4:45:58 PM
43	I2452860-04 CT-6020TL	1	23	3	1	9/23/2024 4:50:37 PM
44	I2452860-05 CT-6020TL	1	24	3	1	9/23/2024 4:55:16 PM
45	I2452860-06 CT-6020TL	1	25	3	1	9/23/2024 4:59:56 PM
46	I2452860-07 CT-6020TL	1	26	3	1	9/23/2024 5:04:33 PM
47	I2452860-08 CT-6020TL	1	27	3	1	9/23/2024 5:09:10 PM
48	I2452860-09 CT-6020TL	1	28	3	1	9/23/2024 5:13:47 PM
49	CCV	0	9	3	1	9/23/2024 5:21:48 PM
50	CCB	0	10	3	1	9/23/2024 5:26:30 PM
51	CCV	0	9	3	1	9/23/2024 5:36:14 PM

Alpha ICPMSQ Seq

9/23/2024 6:27:06 PM



Index:	Label:	Rack	Vial	Main Runs:	Survey Runs:	Start Time:
52	CCB	0	10	3	1	9/23/2024 5:40:56 PM
53	WG1974293-1 CT-6020SL	1	29	3	1	9/23/2024 5:46:02 PM
54	WG1974293-2D10 CT-6020SL	1	30	3	1	9/23/2024 5:50:40 PM
55	WG1974293-3D10 CT-6020SL	1	31	3	1	9/23/2024 5:56:23 PM
56	wg1972628-2D20 A2-6020T	1	33	3	1	9/23/2024 6:03:47 PM
57	L2452976-03 CT-6020SL	1	32	3	1	9/23/2024 6:10:55 PM
58	CCV	0	9	3	1	9/23/2024 6:15:43 PM
59	CCB	0	10	3	1	9/23/2024 6:20:25 PM
60	L2451589-01 6020TL	1	34	3	1	
61	L2451589-01 6020TL	1	35	3	1	
62	L2451723-04 6020TL	1	36	3	1	
63	L2451723-05 6020TL	1	37	3	1	
64	L2451723-06 6020TL	1	38	3	1	
65	Unknown	1	39	3	1	
66	Unknown	1	40	3	1	
67	Unknown	1	41	3	1	
68	Unknown	1	42	3	1	
69	Unknown	1	43	3	1	
70	Unknown	1	44	3	1	
71	Unknown	1	45	3	1	
72	Unknown	1	46	3	1	
73	Unknown	1	47	3	1	
74	Unknown	1	48	3	1	
75	Unknown	1	49	3	1	
76	Unknown	1	50	3	1	
77	CCV	0	9	3	1	
78	CCB	0	10	3	1	
79	Unknown	1	51	3	1	
80	Unknown	1	52	3	1	
81	Unknown	1	53	3	1	
82	Unknown	1	54	3	1	
83	Unknown	1	55	3	1	
84	Unknown	1	56	3	1	
85	Unknown	1	57	3	1	
86	Unknown	1	58	3	1	
87	Unknown	1	59	3	1	
88	Unknown	1	60	3	1	
89	CCV	0	9	3	1	
90	CCB	0	10	3	1	
91	CCV	0	9	3	1	
92	CCB	0	10	3	1	



METALS ELN REPORT

Workgroup: WG1973497

Digestion

Prep Method	Acid Type 1	Acid 1 Lot	Acid Type 2	Acid 2 Lot	Spike Type	Lims Spike Lot	Spike Lot	Post Spike Spikelot	Spike Lot	Pipette Id
EPA 3005A	1:1 HNO3	tHN0324381 80400CLH	1:1 HCl	tHCL243712 0918EFM	METALS	METSPIKE2	IPS,FPS,MIX	METPSMS	IPS,FPS,MIX	140, 326

Additional Reagent/Std

Sample/ Type	Digestion Date	Analyst	Sample Vol ml	Ph	Spike Amt ml	Start Date/Time	Hot Block Unit	Temperatur e (C)	Stop Date/Time	Final Vol	Comments
L2451391-25 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2451391-26 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2452357-01 SAMP	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2452702-01 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2452702-02 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2452702-03 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2452702-04 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453005-01 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453005-02 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453005-03 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453005-04 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453058-01 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453058-02 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453058-03 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	



METALS ELN REPORT

Workgroup: WG1973497

Sample/ Type	Digestion Date	Analyst	Sample Vol ml	Ph	Spike Amt ml	Start Date/Time	Hot Block Unit	Temperature (C)	Stop Date/Time	Final Vol	Comments
L2453252-01 SAMP	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453252-02 SAMP	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453252-03 SAMP	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
L2453389-01 WATER	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973497- 1 BLANK	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	FM2437130422 CLH
WG1973497- 2 LCS	09/19/24 04:23	Christine Hamor	50	<2	.5	09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973497- 3 MS	09/19/24 04:23	Christine Hamor	50	<2	.5	09/19/24 04:23	9	94.7	09/19/24 07:23	50	ELN check:cme
WG1973497- 4 MSD	09/19/24 04:23	Christine Hamor	50	<2	.5	09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973497- 5 PS	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973497- 6 SERDIL	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973497- 7 MS	09/19/24 04:23	Christine Hamor	50	<2	.5	09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973497- 8 MSD	09/19/24 04:23	Christine Hamor	50	<2	.5	09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973497- 9 PS	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	
WG1973497- 10 SERDIL	09/19/24 04:23	Christine Hamor	50	<2		09/19/24 04:23	9	94.7	09/19/24 07:23	50	IPS243315040 5CLH



METALS ELN REPORT

Workgroup: WG1973497

Reagent	Actual Volume	Units
1:1 Hydrochloric Acid (H	.5	ml
1:1 Nitric Acid (HNO3)	1	ml

Inorganic Data (Mercury Analysis)

Form 1

METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 10:10
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,7470A	Analyst	: SMV
Lab File ID	: WG1974107.pdf	Instrument ID	: NIC1
Sample Amount	: 25ml	%Solids	: N/A
Digestion Method	: EPA 7470A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7439-97-6	Mercury, Total	ND	0.00020	0.00009	U



Form 1 METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 10:30
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,7470A	Analyst	: SMV
Lab File ID	: WG1974107.pdf	Instrument ID	: NIC1
Sample Amount	: 25ml	%Solids	: N/A
Digestion Method	: EPA 7470A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7439-97-6	Mercury, Total	ND	0.00020	0.00009	U



Form 1

METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 10:33
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,7470A	Analyst	: SMV
Lab File ID	: WG1974107.pdf	Instrument ID	: NIC1
Sample Amount	: 25ml	%Solids	: N/A
Digestion Method	: EPA 7470A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7439-97-6	Mercury, Total	ND	0.00020	0.00009	U



Form 1

METALS

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973499-1	Date Collected	: NA
Client ID	: WG1973499-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/20/24 10:03
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,7470A	Analyst	: SMV
Lab File ID	: WG1974107.pdf	Instrument ID	: NIC1
Sample Amount	: 25ml	%Solids	: N/A
Digestion Method	: EPA 7470A	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7439-97-6	Mercury, Total	ND	0.00020	0.00009	U



Form 2A

Initial and Continuing Calibration Verification

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : NIC1 Units : mg/l

Parameter	Initial Calibration			Continuing Calibration(s)							
	Lab ID	Date Analyzed		Lab ID	Date Analyzed						
	R1878235-1	09/20/24 07:48		R1878235-3	09/20/24 09:05		R1878235-5	09/20/24 09:54		R1878235-7	09/20/24 10:36
	True	Found	%R	True	Found	%R	Found	%R	Found	%R	
Mercury	0.00300	0.0029	98	0.0050	0.00520	103	0.00520	103	0.00520	103	

Acceptance Criteria:

ICV: 95-105% (Methods 200.7, 245.1)
 90-110% (Methods 200.8, 6010, 6020, 7470, 7471, 7474)
 85-115% (Method 1631)

CCV: 90-110% (Methods 200.7, 245.1, 6010, 6020, 7474)
 85-115% (Methods 200.8, 1631)
 80-120% (Methods 7470, 7471)



Form 3 Blanks

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
 Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
 Instrument ID : NIC1

	Initial Calibration		Continuing Calibration				Preparation	
	Blank		Blank(s)				Blank	
Lab ID :	R1878235-2		R1878235-4	R1878235-6	R1878235-8		WG1973499-1	
Date Analyzed :	09/20/24 07:51		09/20/24 09:08	09/20/24 09:57	09/20/24 10:40		09/20/24 10:03	
Parameter	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q
Mercury	0.0000915	U	0.0000915	U	0.0000915	U	0.00009	U



Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC	Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF	Project Number : 2232.0006Y005
Client Sample ID : MW-15R	Matrix : WATER
Lab Sample ID : L2453058-01	
Matrix Spike : WG1973499-3	MS Analysis Date : 09/20/24 10:13
Matrix Spike Dup : WG1973499-4	MSD Analysis Date : 09/20/24 10:16

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample			Matrix Spike Duplicate			RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Spike Added (mg/l)	Spike Conc. (mg/l)	%R			
Mercury, Total	ND	0.005	0.00434	87	0.005	0.00509	102	16	75-125	20



Form 7 Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : NA Lab Sample ID : WG1973499-2 Dup Sample ID :	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER LCS Analysis Date : 09/20/24 10:07 LCSD Analysis Date :

Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Mercury, Total	0.00100	0.000840	85.					80-120	20

Form 12

Preparation Log

Client : Roux Env. Eng. & Geology, DPC Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF Project Number : 2232.0006Y005
Matrix : WATER Prep Method : EPA 7470A

Sample Number	Preparation Date	Weight (gram)	Volume (mL)
L2453058-01	09/19/24 04:25	-	25
L2453058-02	09/19/24 04:25	-	25
L2453058-03	09/19/24 04:25	-	25
WG1973499-1	09/19/24 04:25	-	25
WG1973499-2	09/19/24 04:25	-	25
WG1973499-3	09/19/24 04:25	-	25
WG1973499-4	09/19/24 04:25	-	25

Form 13

Analysis Run Log

Client : Roux Env. Eng. & Geology, DPC
Project Name : CORAM MATERIALS: CLOSED LF
Instrument ID : NIC1
Start Date : 09/20/24 07:48

Lab Number : L2453058
Project Number : 2232.0006Y005
Analysis Method : 1,7470A
End Date : 09/20/24 10:40

[illegible]



Date Created: 03/19/18
Created By: Jason Hebert
File: PM4631-1
Page: 1

MERCURY by 7470A, 245.1 (WATER)

[illegible]

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Page: 1

METALS by 7470A (WATER)

[illegible]

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Date Created: 01/22/21
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File: PM9837-1
Page: 1

METALS by 7471B (SOIL)

[illegible]

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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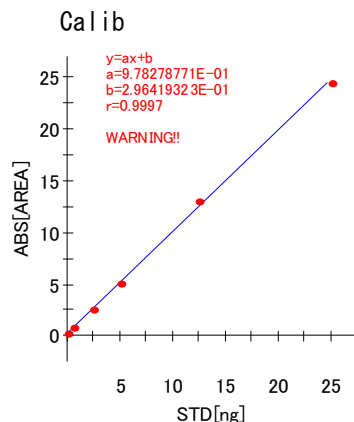
Title :
 Date : 9/20/2024
 Name :

Method

STD
 HONH3CI : 0.0mL
 (1+1) H2SO4 : 0.0mL
 10w/v% SnCl2 : 0.3mL

SMP
 HONH3CI : 0.0mL
 (1+1) H2SO4 : 0.0mL
 10w/v% SnCl2 : 0.3mL

Measurement Time(sec) : 120sec



STD

No.	STD [ug/L]	SVOL [mL]	CVOL [mL]	DVOL [mL]	STD [ng]	AREA [ON]	MEAS [ng]	Dev [%]	M. TIME	Note
1	0.000	2.500	2.500	2.500	0.000	0.2282	-0.0697	-	09/20/2024 07:28	SMV,NIC1
2	0.200	2.500	2.500	2.500	0.500	0.7603	0.4742	5.2	09/20/2024 07:31	SMV,NIC1
3	1.000	2.500	2.500	2.500	2.500	2.6315	2.3869	4.5	09/20/2024 07:34	SMV,NIC1
4	2.000	2.500	2.500	2.500	5.000	5.1276	4.9384	1.2	09/20/2024 07:37	SMV,NIC1
5	5.000	2.500	2.500	2.500	12.500	13.006	12.9921	3.9	09/20/2024 07:41	SMV,NIC1
6	10.000	2.500	2.500	2.500	25.000	24.536	24.7781	0.9	09/20/2024 07:44	SMV,NIC1

SMP

No.	NAME	SVOL [mL]	CVOL [mL]	DVOL [mL]	AREA [ON]	MEAS [ng]	CONC [ug/L]	Recover [%]	M. TIME	Note
1	ICV	2.500	2.500	2.500	7.4966	7.3601	2.944	-	09/20/2024 07:48	SMV,NIC1
2	ICB	2.500	2.500	2.500	0.2345	-0.0633	-0.025	-	09/20/2024 07:51	SMV,NIC1
3	0.2 PPB	2.500	2.500	2.500	0.7869	0.5014	0.201	-	09/20/2024 07:54	SMV,NIC1
4	WG1973897-1 WG1973897	2.500	2.500	2.500	0.3020	0.0057	0.002	-	09/20/2024 08:26	SMV,NIC1
5	WG1973897-2 WG1973897	2.500	2.500	2.500	2.5074	2.2601	0.904	-	09/20/2024 08:30	SMV,NIC1
6	I2453207-09 WG1973897	2.500	2.500	2.500	0.3244	0.0286	0.011	-	09/20/2024 08:33	SMV,NIC1

No.	NAME	SVOL [mL]	CVOL [mL]	DVOL [mL]	AREA [ON]	MEAS [ng]	CONC [ug/L]	Recover [%]	M. TIME	Note
7	WG1973897-3 WG1973897	2.500	2.500	2.500	11.6317	11.5870	4.635	-	09/20/2024 08:36	SMV,NIC1
8	WG1973897-4 WG1973897	2.500	2.500	2.500	0.3454	0.0501	0.020	-	09/20/2024 08:39	SMV,NIC1
9	I2453207-10 WG1973897	2.500	2.500	2.500	0.3361	0.0406	0.016	-	09/20/2024 08:43	SMV,NIC1
10	WG1973434-1 WG1973434	2.500	2.500	2.500	0.1857	-0.1132	-0.045	-	09/20/2024 08:55	SMV,NIC1
11	WG1973434-2 WG1973434	2.500	2.500	2.500	2.3449	2.0940	0.838	-	09/20/2024 08:58	SMV,NIC1
12	L2453142-01 WG1973434	2.500	2.500	2.500	0.1937	-0.1050	-0.042	-	09/20/2024 09:01	SMV,NIC1
13	Check STD(5ug/L)	2.500	2.500	2.500	12.8941	12.8774	5.151	103.0	09/20/2024 09:05	SMV,NIC1
14	Check Blank	2.500	2.500	2.500	0.2336	-0.0642	-0.026	-	09/20/2024 09:08	SMV,NIC1
15	WG1973434-3 WG1973434	2.500	2.500	2.500	10.3783	10.3057	4.122	-	09/20/2024 09:11	SMV,NIC1
16	WG1973434-4 WG1973434	2.500	2.500	2.500	0.1835	-0.1154	-0.046	-	09/20/2024 09:15	SMV,NIC1
17	L2453142-02 WG1973434	2.500	2.500	2.500	0.2076	-0.0908	-0.036	-	09/20/2024 09:18	SMV,NIC1
18	WG1973890-1 WG1973890	2.500	2.500	2.500	0.3045	0.0083	0.003	-	09/20/2024 09:31	SMV,NIC1
19	WG1973890-2 WG1973890	2.500	2.500	2.500	2.3490	2.0982	0.839	-	09/20/2024 09:34	SMV,NIC1
20	I2452771-01 WG1973890	2.500	2.500	2.500	0.3460	0.0507	0.020	-	09/20/2024 09:38	SMV,NIC1
21	WG1973890-3 WG1973890	2.500	2.500	2.500	11.2335	11.1799	4.472	-	09/20/2024 09:41	SMV,NIC1
22	WG1973890-4 WG1973890	2.500	2.500	2.500	0.3353	0.0397	0.016	-	09/20/2024 09:44	SMV,NIC1
23	I2452741-01 WG1973890	2.500	2.500	2.500	0.3168	0.0208	0.008	-	09/20/2024 09:48	SMV,NIC1
24	I2452771-02 WG1973890	2.500	2.500	2.500	0.3077	0.0115	0.005	-	09/20/2024 09:51	SMV,NIC1
25	Check STD(5ug/L)	2.500	2.500	2.500	12.8953	12.8786	5.151	103.0	09/20/2024 09:54	SMV,NIC1
26	Check Blank	2.500	2.500	2.500	0.2349	-0.0629	-0.025	-	09/20/2024 09:57	SMV,NIC1
27	WG1973499-1 WG1973499	2.500	2.500	2.500	0.2158	-0.0824	-0.033	-	09/20/2024 10:03	SMV,NIC1
28	WG1973499-2 WG1973499	2.500	2.500	2.500	2.3686	2.1182	0.847	-	09/20/2024 10:07	SMV,NIC1
29	I2453058-01 WG1973499	2.500	2.500	2.500	0.2089	-0.0895	-0.036	-	09/20/2024 10:10	SMV,NIC1
30	WG1973499-3 WG1973499	2.500	2.500	2.500	10.9213	10.8608	4.344	-	09/20/2024 10:13	SMV,NIC1
31	WG1973499-4 WG1973499	2.500	2.500	2.500	12.7648	12.7452	5.098	-	09/20/2024 10:16	SMV,NIC1
32	I2452357-01 WG1973499	2.500	2.500	2.500	0.2416	-0.0560	-0.022	-	09/20/2024 10:20	SMV,NIC1
33	I2452799-01 WG1973499	2.500	2.500	2.500	0.2442	-0.0534	-0.021	-	09/20/2024 10:23	SMV,NIC1
34	I2452868-06 WG1973499	2.500	2.500	2.500	0.2018	-0.0967	-0.039	-	09/20/2024 10:26	SMV,NIC1
35	I2453058-02 WG1973499	2.500	2.500	2.500	0.2240	-0.0740	-0.030	-	09/20/2024 10:30	SMV,NIC1
36	I2453058-03 WG1973499	2.500	2.500	2.500	0.2258	-0.0722	-0.029	-	09/20/2024 10:33	SMV,NIC1
37	Check STD(5ug/L)	2.500	2.500	2.500	12.9033	12.8868	5.155	103.1	09/20/2024 10:36	SMV,NIC1
38	Check Blank	2.500	2.500	2.500	0.2336	-0.0642	-0.026	-	09/20/2024 10:40	SMV,NIC1

No.	NAME	SVOL [mL]	CVOL [mL]	DVOL [mL]	AREA [ON]	MEAS [ng]	CONC [ug/L]	Recovery [%]	M. TIME	Note
39	WG1973901-1 WG1973901	2.500	2.500	2.500	0.2471	-0.0504	-0.020	-	09/20/2024 10:44	SMV,NIC1
40	WG1973901-2 WG1973901	2.500	2.500	2.500	2.3901	2.1402	0.856	-	09/20/2024 10:47	SMV,NIC1
41	L2448058-04 WG1973901	2.500	2.500	2.500	0.2727	-0.0242	-0.010	-	09/20/2024 10:50	SMV,NIC1
42	WG1973901-3 WG1973901	2.500	2.500	2.500	10.3210	10.2472	4.099	-	09/20/2024 10:53	SMV,NIC1
43	WG1973901-4 WG1973901	2.500	2.500	2.500	0.2641	-0.0330	-0.013	-	09/20/2024 10:57	SMV,NIC1
44	WG1973681-1 WG1973681	2.500	2.500	2.500	0.2502	-0.0472	-0.019	-	09/20/2024 11:00	SMV,NIC1
45	WG1973681-2 WG1973681	2.500	2.500	2.500	2.3414	2.0904	0.836	-	09/20/2024 11:03	SMV,NIC1
46	L2452693-01 WG1973681	2.500	2.500	2.500	0.2553	-0.0420	-0.017	-	09/20/2024 11:07	SMV,NIC1
47	WG1973681-3 WG1973681	2.500	2.500	2.500	8.9845	8.8810	3.552	-	09/20/2024 11:10	SMV,NIC1
48	WG1973681-4 WG1973681	2.500	2.500	2.500	0.2378	-0.0599	-0.024	-	09/20/2024 11:13	SMV,NIC1
49	Check STD(5ug/L)	2.500	2.500	2.500	13.0215	13.0076	5.203	104.1	09/20/2024 11:16	SMV,NIC1
50	Check Blank	2.500	2.500	2.500	0.2368	-0.0609	-0.024	-	09/20/2024 11:20	SMV,NIC1

MERCURY TRUE VALUE CRITERIA

ICV	3 ug/l
LCSW	1 ug/l
MS	1 ug/l
CCV	5 ug/l

As of 6/1/13, Mercury True Value criteria is as follows:

ICV	3 ug/l
LCSW	1 ug/l
MS(aq)	5 ug/l
MS(soil)	1 ug/l
CCV	10 ug/l

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D102-540
Certificate Issue Date: June 22, 2018
Expiration Date: January 31, 2022
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 030512.

CERTIFICATION

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8160	6.36	3960 - 12400	4080 - 12200
Antimony	120	60.9	9.42	0.822 - 121	12.0 - 166
Arsenic	144	135	5.08	112 - 158	94.6 - 176
Barium	469	443	6.77	366 - 521	332 - 554
Beryllium	207	197	5.86	164 - 229	148 - 246
Boron	213	174	12.6	127 - 221	105 - 244
Cadmium	224	204	6.65	169 - 240	153 - 256
Calcium	5190	4830	9.12	3950 - 5700	3510 - 6150
Chromium	138	132	8.56	109 - 155	92.2 - 171
Cobalt	182	179	7.93	151 - 207	134 - 224
Copper	191	184	6.72	155 - 213	138 - 230
Iron	15000	14400	10.7	8770 - 20000	5120 - 23600
Lead	225	216	7.72	178 - 254	159 - 274
Magnesium	2570	2340	6.13	1780 - 2900	1460 - 3230
Manganese	331	323	6.71	266 - 380	242 - 404
Mercury	16.8	13.2	16.0	8.64 - 17.7	7.89 - 18.5
Molybdenum	193	175	2.39	141 - 209	125 - 226
Nickel	163	152	5.95	126 - 178	106 - 197
Potassium	2420	2050	6.31	1440 - 2660	1210 - 2890
Selenium	81.9	74.9	4.13	59.3 - 90.5	47.0 - 103
Silver	57.6	53.9	9.00	43.0 - 64.8	37.8 - 70.0
Sodium	161	149	12.1	111 - 188	57.7 - 241
Strontium	100	96.2	4.04	78.1 - 114	69.0 - 123
Thallium	253	232	3.54	188 - 276	168 - 296

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Tin	146	134	10.8	106 - 163	79.5 - 189
Titanium	449	340	7.20	70.2 - 609	44.9 - 711
Uranium	114	113	7.10	85.5 - 140	71.9 - 153
Vanadium	180	172	8.85	137 - 207	126 - 218
Zinc	217	211	6.58	171 - 250	147 - 274

ANALYTICAL VERIFICATION

Parameter	Certified Value ¹	Proficiency Testing Study			NIST Traceability	
		Mean	Recovery ⁵	n	SRM Number	Recovery
	mg/kg	mg/kg	%			%
Aluminum	10100	8160	80.8	138	-	-
Antimony	120	60.9	50.8	135	-	-
Arsenic	144	135	93.8	184	-	-
Barium	469	443	94.5	158	-	-
Beryllium	207	197	95.0	148	-	-
Boron	213	174	81.8	107	-	-
Cadmium	224	204	91.3	199	-	-
Calcium	5190	4830	93.0	122	-	-
Chromium	138	132	95.5	172	-	-
Cobalt	182	179	98.4	140	-	-
Copper	191	184	96.3	183	-	-
Iron	15000	14400	95.6	133	-	-
Lead	225	216	96.2	204	-	-
Magnesium	2570	2340	91.2	122	-	-
Manganese	331	323	97.6	147	-	-
Mercury	16.8	13.2	78.3	128	-	-
Molybdenum	193	175	90.8	143	-	-
Nickel	163	152	93.1	185	-	-
Potassium	2420	2050	84.7	121	-	-
Selenium	81.9	74.9	91.5	163	-	-

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Proficiency Testing Study		n	NIST Traceability	
		Mean	Recovery ⁵		SRM Number	Recovery
	mg/kg	mg/kg	%			%
Silver	57.6	53.9	93.6	150	-	-
Sodium	161	149	92.8	105	-	-
Strontium	100	96.2	96.2	90	-	-
Thallium	253	232	91.6	147	-	-
Tin	146	134	92.0	100	-	-
Titanium	449	340	75.6	93	-	-
Uranium	114	113	98.8	35	-	-
Vanadium	180	172	95.4	139	-	-
Zinc	217	211	97.0	180	-	-

1. The **Certified Values** are the actual "made-to" concentrations confirmed by ERA analytical verification. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor. The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product.

3. The **QC Performance Acceptance Limits (QC PALs™)** are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.

4. The **PT Performance Acceptance Limits (PT PALs™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAC proficiency testing requirements. Use the PT PALs™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

5. The **PT Data/Traceability** data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values. In addition, where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. This product is traceable to the lot numbers of its starting materials. All gravimetric and volumetric measurements related to its manufacture are traceable to NIST through an unbroken chain of comparisons.

Traceability Recovery (%) = [(% recovery certified standard)/(% recovery NIST SRM)]*100

The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

6. For additional information on this product such as intended use, instructions for use, level of homogeneity, and safety information, please refer to the provided Instruction Sheet

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer

Brian Miller

Quality Officer

Matthew Seebeck




ISO/IEC GUIDE 34:2009

ISO/IEC 17025:2005



Page 3 of 3 Lot: D102-540



A Waters Company

Reference Material

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D105-540
Certificate Issue Date: March 19, 2019
Expiration Date: October 12, 2022
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 030512.

CERTIFICATION

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8800	8.32	4600 - 13000	4470 - 13100
Antimony	282	147	7.70	6.17 - 289	28.2 - 366
Arsenic	155	143	6.34	119 - 168	100 - 186
Barium	439	415	5.37	343 - 488	311 - 519
Beryllium	192	179	2.78	149 - 210	134 - 224
Boron	216	160	7.08	113 - 208	96.1 - 238
Cadmium	61.5	56.2	0.528	46.6 - 65.9	42.2 - 70.3
Calcium	5190	4960	6.64	4090 - 5840	3610 - 6310
Chromium	104	101	4.75	83.2 - 118	70.5 - 131
Cobalt	196	189	0.500	158 - 219	141 - 236
Copper	65.0	63.1	2.65	53.1 - 73.1	47.3 - 78.9
Iron	15000	15700	8.94	10100 - 21300	6000 - 25400
Lead	126	125	4.77	103 - 146	89.3 - 160
Magnesium	2570	2410	6.26	1860 - 2970	1520 - 3310
Manganese	387	382	5.37	315 - 449	290 - 474
Mercury	7.76	7.61	13.7	5.53 - 9.69	4.57 - 10.7
Molybdenum	120	107	0.500	86.0 - 128	75.5 - 139
Nickel	117	108	0.514	89.5 - 127	75.7 - 141
Potassium	2420	2110	5.62	1500 - 2720	1260 - 2960
Selenium	84.6	77.9	7.10	61.8 - 94.0	49.2 - 107
Silver	34.6	34.3	8.34	27.8 - 40.9	23.6 - 45.1
Sodium	161	145	6.72	106 - 183	54.3 - 235
Strontium	104	104	3.95	85.1 - 123	74.8 - 133
Thallium	123	113	0.500	91.3 - 134	77.1 - 149

Page 1 of 3 Lot: D105-540

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▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Tin	118	107	0.500	83.5 - 130	61.2 - 152
Titanium	512	421	5.80	114 - 728	0.00 - 854
Uranium	103	104	6.18	79.1 - 128	71.9 - 135
Vanadium	87.3	83.7	8.55	66.8 - 101	54.2 - 113
Zinc	251	240	3.98	194 - 285	168 - 312

ANALYTICAL VERIFICATION

Parameter	Certified Value ¹	Proficiency Testing Study			NIST Traceability	
		Mean	Recovery ⁵	n	SRM Number	Recovery
	mg/kg	mg/kg	%			%
Aluminum	10100	8800	87.1	193	-	-
Antimony	282	147	52.3	216	-	-
Arsenic	155	143	92.5	240	-	-
Barium	439	415	94.6	222	-	-
Beryllium	192	179	93.4	220	-	-
Boron	216	160	74.2	152	-	-
Cadmium	61.5	56.2	91.5	239	-	-
Calcium	5190	4960	95.6	175	-	-
Chromium	104	101	96.8	237	-	-
Cobalt	196	189	96.2	215	-	-
Copper	65.0	63.1	97.1	237	-	-
Iron	15000	15700	105	195	-	-
Lead	126	125	99.0	243	-	-
Magnesium	2570	2410	93.9	177	-	-
Manganese	387	382	98.7	215	-	-
Mercury	7.76	7.61	98.0	157	-	-
Molybdenum	120	107	89.4	216	-	-
Nickel	117	108	92.5	235	-	-
Potassium	2420	2110	87.2	181	-	-
Selenium	84.6	77.9	92.1	231	-	-

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Proficiency Testing Study		n	NIST Traceability	
		Mean	Recovery ⁵		SRM Number	Recovery
	mg/kg	mg/kg	%			%
Silver	34.6	34.3	99.3	216	-	-
Sodium	161	145	89.8	166	-	-
Strontium	104	104	99.9	148	-	-
Thallium	123	113	91.8	215	-	-
Tin	118	107	90.4	164	-	-
Titanium	512	421	82.2	157	-	-
Uranium	103	104	101	61	-	-
Vanadium	87.3	83.7	95.9	214	-	-
Zinc	251	240	95.5	234	-	-

1. The **Certified Values** are the actual "made-to" concentrations confirmed by ERA analytical verification. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this reference material during the period of validity of this certificate.

2. The **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor. The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product.

3. The **QC Performance Acceptance Limits (QC PALs™)** are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.

4. The **PT Performance Acceptance Limits (PT PALs™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAC proficiency testing requirements. Use the PT PALs™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

5. The **PT Data/Traceability** data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values. In addition, where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. This product is traceable to the lot numbers of its starting materials. All gravimetric and volumetric measurements related to its manufacture are traceable to NIST through an unbroken chain of comparisons.

Traceability Recovery (%) = [(% recovery certified standard)/(% recovery NIST SRM)]*100

The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

6. For additional information on this product such as intended use, instructions for use, level of homogeneity, and safety information, please refer to the provided Instruction Sheet

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer

Brian Miller

Quality Officer

Matthew Seebeck



ISO/IEC 17025:2005
ISO/IEC 17025:2005


Page 3 of 3 Lot: D105-540

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D109-540
Certificate Issue Date: March 24, 2020
Expiration Date: October 03, 2023
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 090119.

CERTIFICATION

Parameter	Certified Value ¹	Reference Value ⁷	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8130	2.54	3920 - 12300	4060 - 12200
Antimony	259	134	5.03	4.56 - 264	25.9 - 335
Arsenic	171	156	3.38	129 - 183	109 - 203
Barium	253	239	4.81	197 - 280	179 - 298
Beryllium	179	169	6.59	141 - 198	127 - 212
Boron	114	87.5	10.3	62.5 - 113	52.5 - 125
Cadmium	149	137	5.43	113 - 160	103 - 171
Calcium	5190	4760	3.48	3890 - 5640	3460 - 6070
Chromium	163	154	3.79	126 - 181	108 - 200
Cobalt	127	121	5.07	101 - 141	90.8 - 151
Copper	57.0	54.9	4.13	46.1 - 63.6	41.1 - 68.6
Iron	15000	14100	6.27	8470 - 19700	4920 - 23200
Lead	133	130	3.00	107 - 152	93.3 - 167
Magnesium	2570	2320	3.32	1760 - 2880	1440 - 3200
Manganese	277	269	2.67	221 - 317	199 - 340
Mercury	21.6	20.5	7.72	14.7 - 26.3	12.3 - 28.6
Molybdenum	108	95.4	2.61	76.4 - 114	66.9 - 124
Nickel	58.7	53.9	4.97	44.5 - 63.3	37.7 - 70.0
Potassium	2420	2020	3.06	1410 - 2630	1190 - 2850
Selenium	181	167	5.63	132 - 201	113 - 221
Silver	35.5	33.6	5.20	26.8 - 40.3	23.0 - 44.1
Sodium	161	133	2.76	95.1 - 171	46.5 - 220
Strontium	89.7	87.9	4.59	71.7 - 104	62.8 - 113
Thallium	121	112	5.19	90.3 - 133	76.1 - 147

Certified Reference Material

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value ⁷	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Tin	83.5	74.0	5.42	57.6 - 90.4	39.7 - 108
Titanium	474	333	7.17	48.6 - 617	46.3 - 620
Uranium	51.9	51.9	3.36	39.6 - 64.3	35.9 - 68.0
Vanadium	68.1	62.6	6.00	49.4 - 75.8	37.0 - 88.3
Zinc	165	158	2.34	128 - 188	111 - 205

▪ Certificate of Analysis ▪

ANALYTICAL VERIFICATION

Parameter	Certified Value ¹	Proficiency Testing Study		n	NIST Traceability	
		Mean	Recovery ⁵		SRM Number ⁶	Recovery
	mg/kg	mg/kg	%			%
Aluminum	10100	8130	80.5	196	-	-
Antimony	259	134	51.8	217	-	-
Arsenic	171	156	91.3	243	-	-
Barium	253	239	94.3	230	-	-
Beryllium	179	169	94.6	223	-	-
Boron	114	87.5	76.7	150	-	-
Cadmium	149	137	91.8	249	-	-
Calcium	5190	4760	91.8	184	-	-
Chromium	163	154	94.4	245	-	-
Cobalt	127	121	95.3	221	-	-
Copper	57.0	54.9	96.2	243	-	-
Iron	15000	14100	93.9	199	-	-
Lead	133	130	97.7	251	-	-
Magnesium	2570	2320	90.1	182	-	-
Manganese	277	269	97.2	220	-	-
Mercury	21.6	20.5	94.7	172	-	-
Molybdenum	108	95.4	88.3	218	-	-
Nickel	58.7	53.9	91.8	242	-	-
Potassium	2420	2020	83.5	187	-	-
Selenium	181	167	92.2	235	-	-
Silver	35.5	33.6	94.5	222	-	-
Sodium	161	133	82.7	177	-	-
Strontium	89.7	87.9	98.0	151	-	-
Thallium	121	112	92.2	219	-	-
Tin	83.5	74.0	88.6	170	-	-
Titanium	474	333	70.3	157	-	-
Uranium	51.9	51.9	100	60	-	-
Vanadium	68.1	62.6	91.9	213	-	-
Zinc	165	158	95.8	238	-	-

▪ Certificate of Analysis ▪

1. The **Certified Values** are the actual gravimetric/volumetric "made-to" concentrations confirmed by ERA analytical verification. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The **Uncertainty** represents an expanded uncertainty and approximates a 95% confidence interval. The uncertainty is based on the characterization, homogeneity and stability characteristics of the product, multiplied by a coverage factor ($k=2$). The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product. The formula used to calculate the expanded uncertainty is:

$$U_{\text{expanded}} = k * \text{SQRT}((U_{\text{char}})^2 + (U_{\text{homogen}})^2 + (U_{\text{LTS}})^2 + (U_{\text{STS}})^2 + (U_{\text{RSS}})^2)$$

Where:

U_{expanded} = Expanded uncertainty.

k = Coverage factor.

U_{char} = Combined standard uncertainty of the manufacturing and/or analytical verification assessment.

U_{homogen} = Standard uncertainty of the homogeneity assessment.

U_{LTS} = Standard uncertainty associated with long-term stability.

U_{STS} = Standard uncertainty associated with short-term (transport) stability.

U_{RSS} = Standard uncertainty associated with repeated sampling of the product (where permitted by product use instructions).

3. The **QC Performance Acceptance Limits (QC PALs™)** are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.

4. The **PT Performance Acceptance Limits (PT PALs™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAC proficiency testing requirements. Use the PT PALs™ when analyzing this certified reference material alongside USEPA and NELAC compliant PT study materials. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and therefore, the acceptance limits of this certified reference material and any PT study material may differ relative to their difference in concentrations.

5. The **PT Performance Data** include the mean value, percent recovery and number of data points reported by laboratories in our Proficiency Testing study compared to the Certified Values. In the event this lot was not used in a proficiency testing scheme, the data displayed was generated internally by ERA.

6. Where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. **Analytical Traceability Recovery (%)** = $[(\% \text{ recovery ERA certified reference material}) / (\% \text{ recovery NIST SRM})] * 100$

The traceability data shown were compiled by analyzing this ERA certified reference material and/or its associated stock solution(s) against the applicable NIST SRMs.

7. The **Reference Values** are equal to the mean recoveries for the parameters as determined in an interlaboratory round robin study. The **Reference Values** represent the expected performance for the analytes in this standard. ERA recommends using the **Reference Values** when assessing or evaluating your results.

8. **Metrological Traceability.** This certified reference material is metrologically traceable to NIST mass reference materials through an unbroken chain of comparisons.

9. For additional information on this product such as intended use, storage information, instructions for use, minimum sample size, and safety information, please refer to the Product Use Instructions provided.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer

Brian Miller

Quality Officer

Matthew Seebeck

Brian Miller

Matthew Seebeck





A Waters Company

Certified Reference Material

▪ Certificate of Analysis ▪

Product: Metals in Soil
Catalog Number: 540
Lot No. D113-540
Certificate Issue Date: March 23, 2021
Expiration Date: October 13, 2024
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #540 revision 090119.

CERTIFICATION



Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Aluminum	10100	8630	12.0	4420 - 12800	4370 - 12900
Antimony	256	129	16.8	0.742 - 257	25.6 - 323
Arsenic	91.6	84.5	15.1	70.0 - 99.0	59.2 - 110
Barium	259	249	9.94	206 - 292	187 - 311
Beryllium	175	163	3.89	135 - 191	122 - 204
Boron	95.7	76.7	12.8	55.7 - 97.7	48.0 - 107
Cadmium	107	99.0	11.5	82.2 - 116	74.2 - 124
Calcium	5190	4760	11.8	3890 - 5640	3460 - 6070
Chromium	129	122	14.6	101 - 144	85.7 - 159
Cobalt	63.6	61.7	11.5	51.9 - 71.6	46.3 - 77.2
Copper	62.3	61.5	12.3	51.9 - 71.0	46.1 - 76.8
Iron	15000	14500	15.7	8860 - 20100	5190 - 23800
Lead	122	123	13.9	103 - 144	88.3 - 158
Lithium	6.42	7.30	18.7	5.13 - 9.48	3.20 - 11.4
Magnesium	2570	2360	8.87	1810 - 2920	1480 - 3250
Manganese	470	456	13.4	375 - 538	350 - 563
Mercury	22.1	18.9	14.5	13.0 - 24.8	11.3 - 26.4
Molybdenum	80.1	72.8	11.0	58.7 - 87.0	50.5 - 95.2
Nickel	143	135	14.2	112 - 158	94.7 - 176
Potassium	2420	2090	8.21	1480 - 2700	1240 - 2940
Selenium	128	121	11.7	96.9 - 146	80.4 - 162
Silver	45.4	44.1	6.69	35.5 - 52.8	30.7 - 57.6
Sodium	161	136	9.34	97.4 - 174	48.1 - 223
Strontium	82.2	82.3	8.42	67.4 - 97.1	58.6 - 106

Page 1 of 4 Lot: D113-540

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Certified Reference Material

▪ Certificate of Analysis ▪

Parameter	Certified Value ¹	Reference Value	Uncertainty ²	QC Performance Acceptance Limits ³	PT Performance Acceptance Limits ⁴
	mg/kg	mg/kg	%	mg/kg	mg/kg
Thallium	154	144	7.54	117 - 171	101 - 187
Tin	89.7	79.8	14.0	62.2 - 97.4	43.5 - 116
Titanium	705	546	10.3	123 - 969	118 - 974
Uranium	29.5	30.9	3.38	23.9 - 37.9	21.3 - 40.5
Vanadium	196	186	14.2	148 - 224	138 - 235
Zinc	307	295	10.4	240 - 351	207 - 384



Calculation of 7470A Mercury

Calculate Mercury concentration from the daily calibration curve.
The curve is generated utilizing a straight-line equation defined as:

$$A = k_1 + k_2C$$

Where:

A = Average peak height of the sample/standard integrations

C = Sample/Standard Concentration, $\mu\text{g/L}$

k_1 = y-intercept

k_2 = slope

The instrument will plot peak height against concentration ($\mu\text{g/L}$).
The result is generated in $\mu\text{g/L}$. This value is divided by 1000 to convert the units to mg/L . If the sample is diluted (DF), the result is multiplied by the DF to generate the final result.

$$\text{Result, mg/L} = (\text{concentration, } \mu\text{g/L}) \times (1\text{mg}/1000\mu\text{g}) \times (\text{DF})$$



Calculation of 7471B Mercury

Calculate Mercury concentration from the daily calibration curve.
The curve is generated utilizing a straight-line equation defined as:

$$A = k_1 + k_2C$$

Where:

A = Average peak height of the sample/standard integrations

C = Sample/Standard Concentration, $\mu\text{g/L}$

k_1 = y-intercept

k_2 = slope

The instrument will plot peak height against concentration ($\mu\text{g/L}$).
The result is generated in $\mu\text{g/L}$. This value is divided by 1000 to convert the units to mg/L . If the sample is diluted (DF), the result is multiplied by the DF to generate the final result.

$$\text{Result, mg/L} = (\text{concentration, } \mu\text{g/L}) \times (1\text{mg}/1000\mu\text{g}) \times (\text{DF})$$

The result in mg/kg is calculated on a dry weight basis using the sample weight digested (Wt), the final volume of the digestate (FV), and the percent total solids (%TS).

$$\text{Result, mg/kg, wet} = ((\text{result, mg/L}) \times (\text{FV})) / \text{Wt}$$

$$\text{Result, mg/kg, dry wt} = (\text{Result, mg/kg wet}) / (\% \text{TS})$$

No.	Sample No. NAME
1	1 STD
2	2 STD
3	3 STD
4	4 STD
5	5 STD
6	6 STD
1	7 ICV
2	8 ICB
3	9 0.2 PPB
4	10 WG1973897-1 WG1973897
5	11 WG1973897-2 WG1973897
6	12 I2453207-09 WG1973897
7	13 WG1973897-3 WG1973897
8	14 WG1973897-4 WG1973897
9	15 I2453207-10 WG1973897
10	16 WG1973434-1 WG1973434
11	17 WG1973434-2 WG1973434
12	18 L2453142-01 WG1973434
13	19 Check STD(5ug/L)
14	20 Check Blank
15	21 WG1973434-3 WG1973434
16	22 WG1973434-4 WG1973434
17	23 L2453142-02 WG1973434
18	24 WG1973890-1 WG1973890
19	25 WG1973890-2 WG1973890
20	26 I2452771-01 WG1973890
21	27 WG1973890-3 WG1973890
22	28 WG1973890-4 WG1973890
23	29 I2452741-01 WG1973890
24	30 I2452771-02 WG1973890
25	31 Check STD(5ug/L)
26	32 Check Blank
27	33 WG1973499-1 WG1973499
28	34 WG1973499-2 WG1973499
29	35 I2453058-01 WG1973499
30	36 WG1973499-3 WG1973499
31	37 WG1973499-4 WG1973499
32	38 I2452357-01 WG1973499
33	39 I2452799-01 WG1973499
34	40 I2452868-06 WG1973499
35	41 I2453058-02 WG1973499
36	42 I2453058-03 WG1973499
37	43 Check STD(5ug/L)

38	44 Check Blank
39	45 WG1973901-1 WG1973901
40	46 WG1973901-2 WG1973901
41	47 L2448058-04 WG1973901
42	48 WG1973901-3 WG1973901
43	49 WG1973901-4 WG1973901
44	50 WG1973681-1 WG1973681
45	51 WG1973681-2 WG1973681
46	52 L2452693-01 WG1973681
47	53 WG1973681-3 WG1973681
48	54 WG1973681-4 WG1973681
49	55 Check STD(5ug/L)
50	56 Check Blank



METALS ELN REPORT

Workgroup: WG1973499

Digestion

Prep Method	Acid Type 1	Acid 1 Lot	Acid Type 2	Acid 2 Lot	Spike Type	Lims Spike Lot	Spike Lot	Post Spike Spikelot	Spike Lot	Pipette Id
EPA 7470A	HNO3	24011095	H2SO4	24001335	METALS	METSPIKE	HG2438170807AJTV1	METSPIKE	HG24381708320, 34807AJTV1	

Additional Reagent/Std	K2O8S2	PS2437130220CLH
	KMnO4	PP2438171427NRS
	NaCl-NH2OH.HCl	HH2438171130MJR
		ICV2436051025CME

Sample/ Type	Digestion Date	Analyst	Sample Vol ml	Spike Amt ml	Start Date/Time	Hot Block Unit	Temperature (C)	Stop Date/Time	Final Vol	Comments
L2452357-01 SAMP	09/19/24 04:25	Christine Hamor	25		09/19/24 04:25	5	94.7	09/19/24 06:25	25	
L2452799-01 SAMP	09/19/24 04:25	Christine Hamor	25		09/19/24 04:25	5	94.7	09/19/24 06:25	25	
L2452868-06 SAMP	09/19/24 04:25	Christine Hamor	25		09/19/24 04:25	5	94.7	09/19/24 06:25	25	
L2453058-01 WATER	09/19/24 04:25	Christine Hamor	25		09/19/24 04:25	5	94.7	09/19/24 06:25	25	
L2453058-02 WATER	09/19/24 04:25	Christine Hamor	25		09/19/24 04:25	5	94.7	09/19/24 06:25	25	
L2453058-03 WATER	09/19/24 04:25	Christine Hamor	25		09/19/24 04:25	5	94.7	09/19/24 06:25	25	
WG1973499-1 BLANK	09/19/24 04:25	Christine Hamor	25		09/19/24 04:25	5	94.7	09/19/24 06:25	25	ELN check: cme
WG1973499-2 LCS	09/19/24 04:25	Christine Hamor	25	.25	09/19/24 04:25	5	94.7	09/19/24 06:25	25	
WG1973499-3 MS	09/19/24 04:25	Christine Hamor	25	1.25	09/19/24 04:25	5	94.7	09/19/24 06:25	25	
WG1973499-4 MSD	09/19/24 04:25	Christine Hamor	25	1.25	09/19/24 04:25	5	94.7	09/19/24 06:25	25	

Workgroup: WG1973499

Reagent	Actual Volume	Units
Sulfuric Acid (H ₂ SO ₄)	1.25	ml
Nitric Acid (HNO ₃)	.625	ml
Potassium Permanganal	3.75	ml
Potassium Persulfate (K:	2	ml
NaCl-Hydroxylamine Hy	1.5	ml

Wet Chemistry

Color Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/18/24 11:00
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,2120B	Analyst	: JBB
Lab File ID	: WG1973163.csv	Instrument ID	:
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	A.P.C.U.			Qualifier
		Results	RL	MDL	
COLOR	Color, Apparent	ND	5.0	5.0	U

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/18/24 11:00
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,2120B	Analyst	: JBB
Lab File ID	: WG1973163.csv	Instrument ID	:
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	A.P.C.U.			Qualifier
		Results	RL	MDL	
COLOR	Color, Apparent	ND	5.0	5.0	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/18/24 11:00
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,2120B	Analyst	: JBB
Lab File ID	: WG1973163.csv	Instrument ID	:
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	A.P.C.U.			Qualifier
		Results	RL	MDL	
COLOR	Color, Apparent	ND	5.0	5.0	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973163-1	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/18/24 11:00
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,2120B	Analyst	: JBB
Lab File ID	: WG1973163.csv	Instrument ID	:
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	A.P.C.U.			Qualifier
		Results	RL	MDL	
COLOR	Color, Apparent	ND	5.0	5.0	U



Sample Raw Data

Last Change 01/03/11
File color.xlt

Product: COLOR-A-2120
 Analyte: Color, Apparent
 Analysis Date: #####
 Technician: JBB
 Work group: WG1973163
 RL: 5 A.P.C.U.

Sample Volume(mL): 50.0

[illegible]

Quality Control

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/18/24 11:00
Dup Sample ID	: WG1973163-1	DUP Analysis Date	: 09/18/24 11:00

Parameter	Sample Concentration (A.P.C.U.)	Duplicate Concentration (A.P.C.U.)	RPD	RPD Limit
Color, Apparent	ND	ND	NC	

Sample Preparation

TITLE

Project No.

Book No.

From Page No.

SAMPLE	HIGH	LOW	Result	PH/METER	Dilution	CURVE	
~~A-2120~~ 844-23	15	10	14	PH3 6.83	1x	C-091024	09/13/24 WG1971303 JBB 10:30
-24	5	0	3	6.95			
-25	5	0	0	7.04			
-26	5	0	0	6.81			
-27	20	15	17	7.22			
-28	5	0	0	7.18			
-29	5	0	0	7.23			
-30	20	15	19	7.41			
-31	5	0	0	7.28			
500-01	15	10	11	7.27			
-02	5	0	0	6.82			
-03	10	5	6	7.12			
-04	5	0	5	6.65			
-05	5	0	0	6.38			
-06	20	15	16	6.60	10x (5+50) MTX		
-07	5	0	0	6.81	1x		
-08	5	0	0	6.41			
844-28 DUP	5	0	0	7.18			
500-08 DUP	5	0	0	6.41			
A-2120							
52759-02	20	15	19	6.78	2x MTX	C-091024	WG1971581 9/14/24 5:15 CAR
-02 DUP	25	15	18	6.79			
A-2120							
058-01	5	0	3	6.58	1x	C-091024	WG1973163 JBB 09/18/24 11:00
-02	5	0	0	6.61			
-03	5	0	0	6.73			
069-01	50	45	46	7.14			
-02	20	15	17	6.77	2x (25+50) MTX		
-03	50	45	48	6.72	1x		
058-01 DUP	5	0	3	6.58			

Witnessed & Understood by me,

Date

Invented by:

Recorded by:

To Page No.

Date

Total Kjeldahl Nitrogen Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 17:26
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,351.1	Analyst	: AT
Lab File ID	: NH320240919-C	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Nitrogen, Total Kjeldahl	ND	0.300	0.066	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 17:29
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,351.1	Analyst	: AT
Lab File ID	: NH320240919-C	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Nitrogen, Total Kjeldahl	0.102	0.300	0.066	J



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 17:30
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,351.1	Analyst	: AT
Lab File ID	: NH320240919-C	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Nitrogen, Total Kjeldahl	ND	0.300	0.066	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973578-1	Date Collected	: NA
Client ID	: WG1973578-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/19/24 17:12
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,351.1	Analyst	: AT
Lab File ID	: NH320240919-C	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Nitrogen, Total Kjeldahl	ND	0.300	0.022	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973578-3	Date Collected	: 09/16/24 11:10
Client ID	: WG1973578-3 DUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/19/24 17:18
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,351.1	Analyst	: AT
Lab File ID	: NH320240919-C	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Nitrogen, Total Kjeldahl	0.352	0.300	0.066	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973578-5	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/19/24 17:28
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,351.1	Analyst	: AT
Lab File ID	: NH320240919-C	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Nitrogen, Total Kjeldahl	0.382	0.300	0.066	



Sample Raw Data

Original Run Filename: OM_9-19-2024_02-32-33PM.OMN Created: 9/19/2024 2:32:33 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_02-32-33PM.OMN Last Modified: 9/19/2024 2:58:40 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

A

Sample	Rep.	Cup No.	Channel 2	ADF	MDF	Weight
			Ammonia (mg N/L)			
STD 1	1	S1	10.00000			
STD 2	1	S2	8.00000			
STD 3	1	S3	4.00000			
STD 4	1	S4	2.00000			
STD 5	1	S5	1.00000			
STD 6	1	S6	0.40000			
STD 7	1	S7	0.20000			
STD 8	1	S8	0.10000			
STD 9	1	S9	0.05000			
STD 10	1	S10	0.00000			
CCV 0.4000	1	S6	0.36797	92%		
Known Conc:			100.00000			
Calibration: Table/Fig. : 1				100%		
CCV 4.0000	1	S3	3.97753			
Known Conc:			100.00000			
CCB	1	S10	0.03328			
Known Conc:			100.00000			
HI ICV 8.0	1	1	7.89018	99%		
LO ICV 1.0	1	2	0.96665	99%		
ICB	1	3	0.02586			
WG1973478-1	1	4	0.01500		1.50	81%
WG1973478-2	1	5	16.13574		7.50	93%
LCS LO	1	6	1.85483		1.50	
L2452052-01	1	7	18.90273		3.00	
L2452052-02	1	8	0.49607		1.50	
L2452063-01	1	9	0.39304		1.50	
L2452066-01	1	10	22.81327		1.50	
CCV 0.4000	1	S6	0.80738			
Known Conc:			100.00000			

w/dilution.

reagent - OK

Channel 2 (Ammonia High) - Current View

9.93715

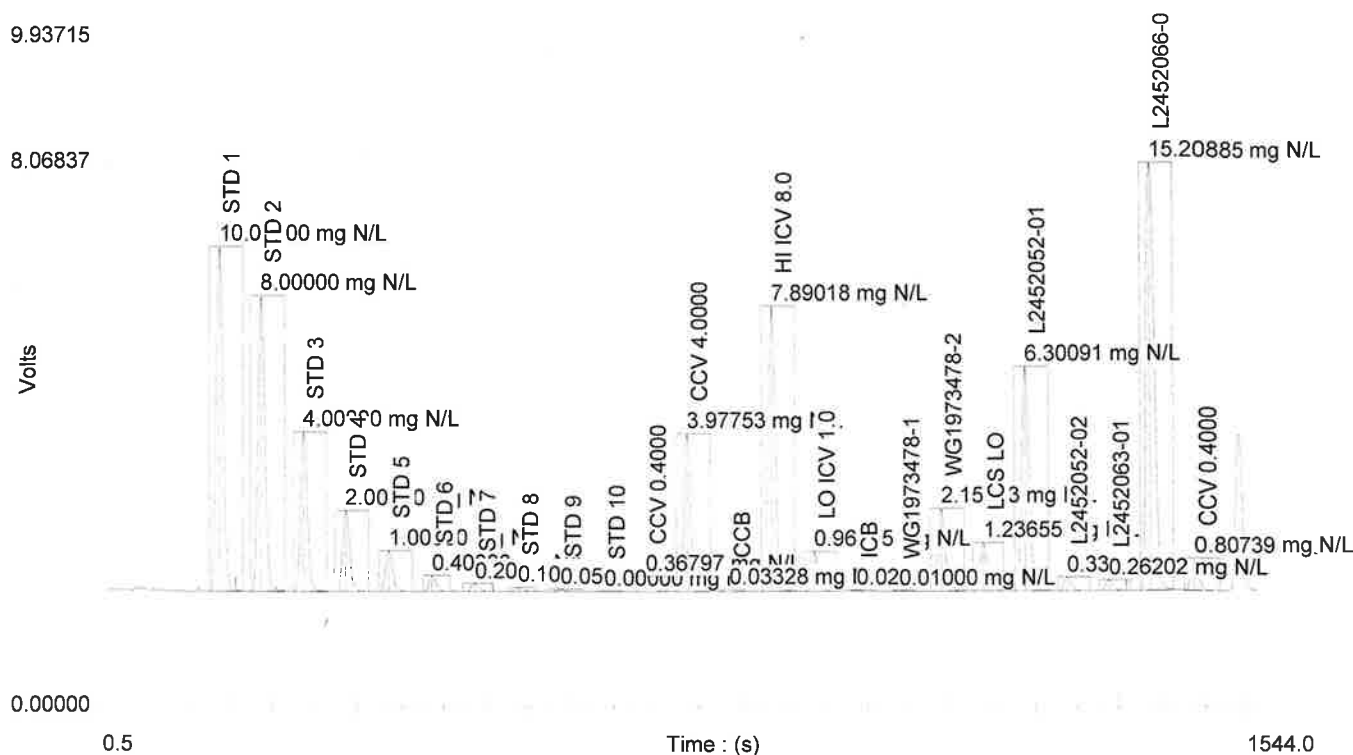
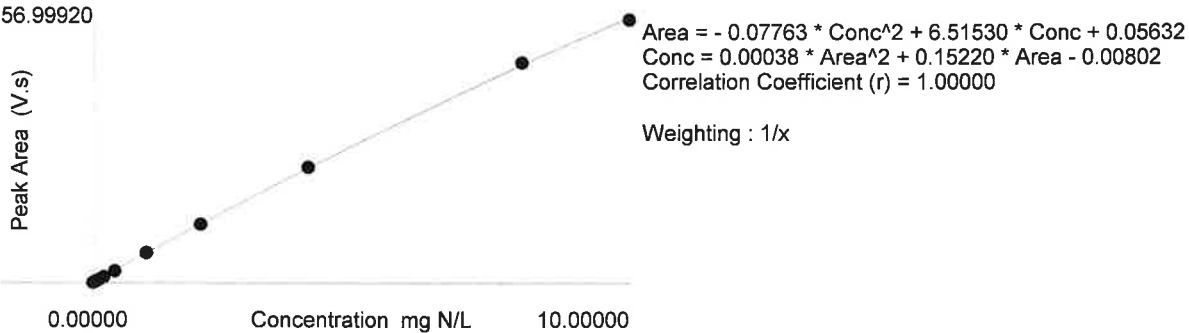


Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)

56.99920



Original Run Filename: OM_9-19-2024_02-59-41PM.OMN Created: 9/19/2024 2:59:41 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_02-59-41PM.OMN Last Modified: 9/19/2024 3:30:57 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2	ADF	MDF	Weight
			Ammonia (mg N/L)			
CCV 0.4000	1	S6	0.41599	101%		
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCV 4.0000	1	S3	4.01676	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.04923	/		
		Known Conc:	100.00000			
L2452486-01	1	11	15.33254		1.50	
L2452512-01	1	12	0.56325		1.50	
WG1973478-4	1	13	4.19356		1.50	
WG1973478-3	1	14	0.27435		1.50	
L2452512-02	1	15	0.05235		1.50	
L2452512-03	1	16	0.11620		1.50	
L2452512-04	1	17	0.05973		1.50	
L2452621-01	1	18	2.10134		7.50	
L2452623-01	1	19	0.27063		1.50	
L2452650-01	1	20	0.37497		1.50	
CCV 0.4000	1	S6	0.37944	95%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.98103	100%		
		Known Conc:	100.00000			
CCB	1	S10	0.04219	/		
		Known Conc:	100.00000			
L2452651-01	1	21	31.01604		1.50	
L2452654-01	1	22	1.12044		1.50	
L2452668-01	1	23	0.89843		1.50	
L2452668-02	1	24	3.62301		1.50	
L2452668-03	1	25	4.52545		1.50	
L2452668-04	1	26	50.91280		1.50	
L2452680-01	1	27	2.03025		1.50	
L2452715-01	1	28	0.37061		1.50	
L2452066-01; 20X	1	29	23.76126		30.00	
CCV 0.4000	1	S6	0.39921	100%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.00743	100%		
		Known Conc:	100.00000			
CCB	1	S10	0.06538			
		Known Conc:	100.00000			

A2

w/dilution.
101%.
56% (CS+HCL)

inject - ok

Channel 2 (Ammonia High) - Current View

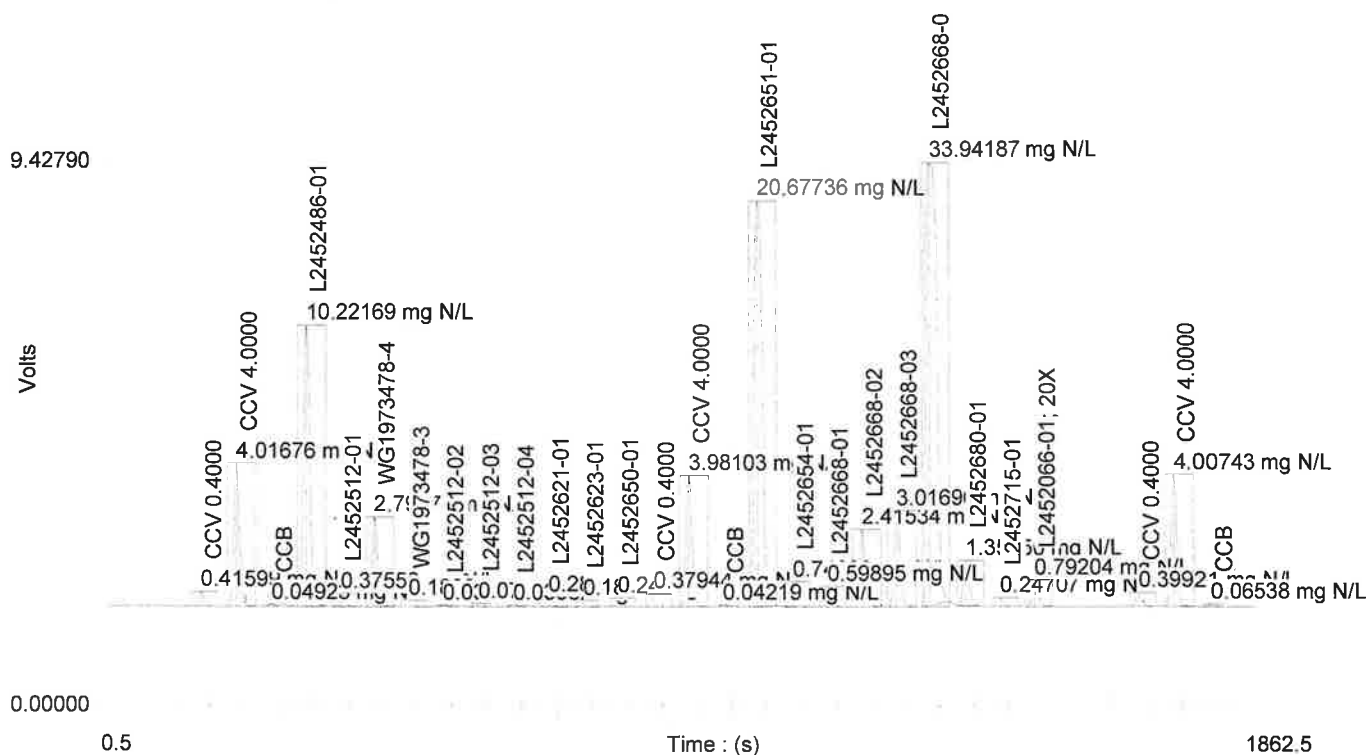
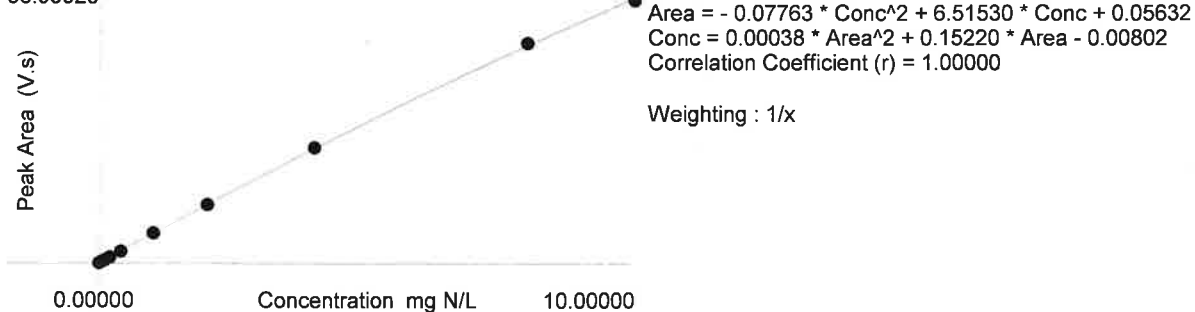


Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)

56.99920



Original Run Filename: OM_9-19-2024_03-43-09PM.OMN Created: 9/19/2024 3:43:09 PM
Original Run Author's Signature: [A1WETCHEMINSTRUMENT]
Current Run Filename: OM_9-19-2024_03-43-09PM.OMN Last Modified: 9/19/2024 3:58:22 PM
Current Run Author's Signature: [A1WETCHEMINSTRUMENT]
Description: Default New Run

Sample	Rep.	Cup No.	Channel 2	ADF	MDF	Weight
			Ammonia (mg N/L)			
CCV 0.4000	1	S6	0.36739			
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.98562			
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCB	1	S10	0.04130			
		Known Conc:	100.00000			
L2452486-01; 10X	1	11	14.30680		15.00	
L2452512-01	1	12	0.15388		1.50	
L2452651-01; 10X	1	21	38.73191		15.00	
L2452654-01	1	22	0.48787		1.50	
L2452668-04; 50X	1	26	169.40408		75.00	
L2452680-01	1	27	0.42496		1.50	
CCV 0.4000	1	S6	0.37797			
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.99949			
		Known Conc:	100.00000			
CCB	1	S10	0.04393			
		Known Conc:	100.00000			

A3

Channel 2 (Ammonia High) - Current View

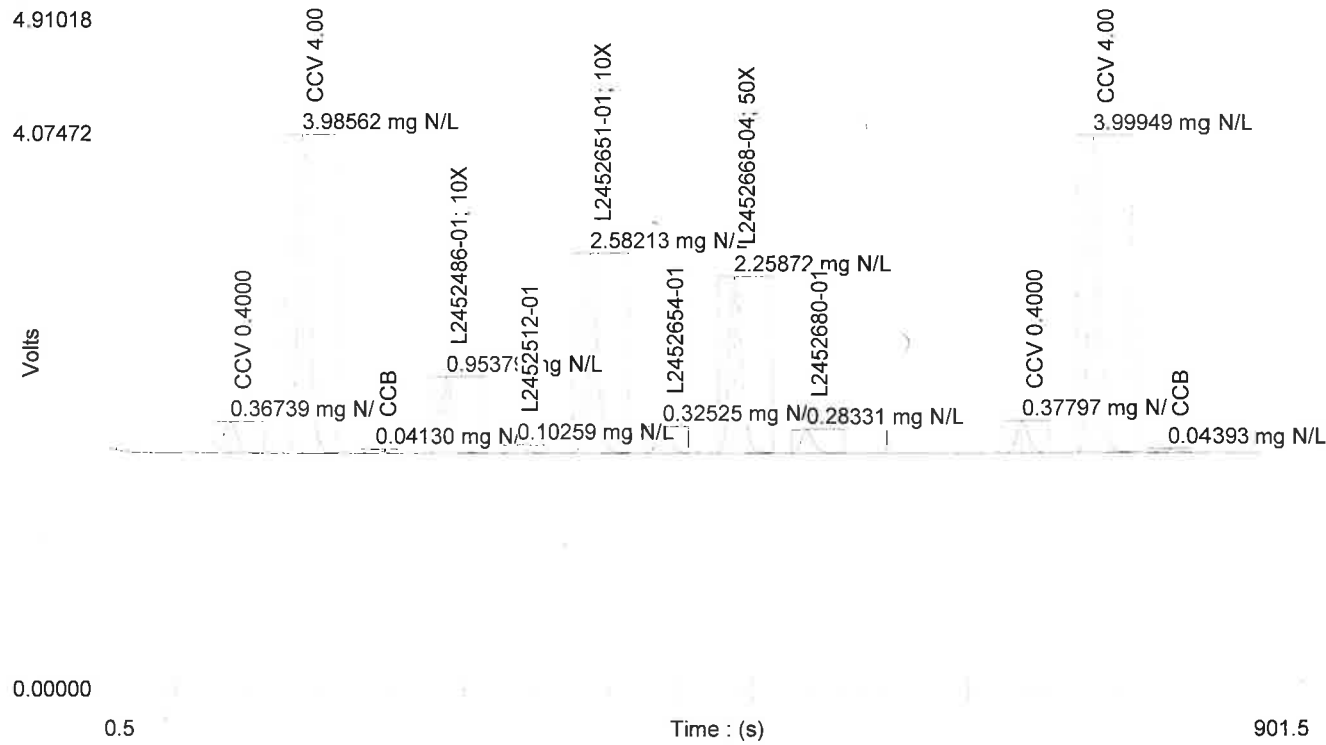
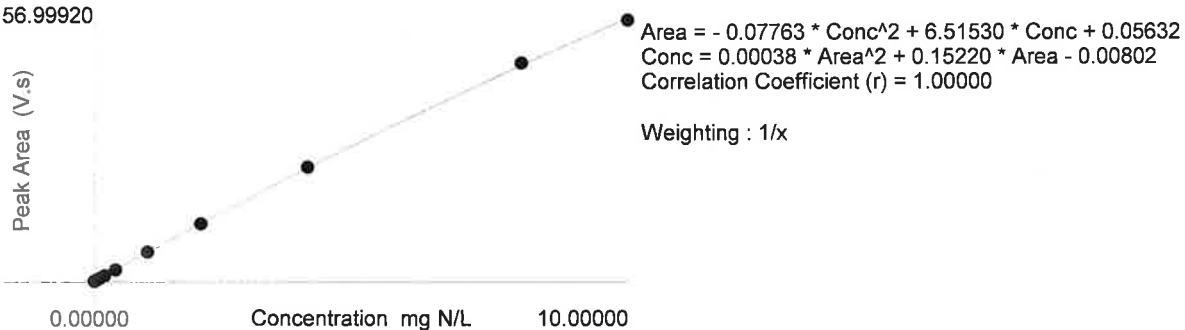


Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)

56.99920



Original Run Filename: OM_9-19-2024_04-27-43PM.OMN Created: 9/19/2024 4:27:43 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_04-27-43PM.OMN Last Modified: 9/19/2024 5:07:36 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2 Ammonia (mg N/L)	ADF	MDF	Weight
CCV 0.4000	1	S6	0.40018	100%		
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCV 4.0000	1	S3	4.06258	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.01920			
		Known Conc:	100.00000			
WG1973120-1 T; BLK 9/18	1	1	0.03601			
WG1973120-2 T; HI LCS; 5X	1	2	38.31075		15.00	96%
LO LCS T	1	3	4.03301		3.00	101%
L2452252-02 T	1	4	3.35270		3.00	
L2452286-01 T	1	5	0.21738		3.00	
L2452333-01 T	1	6	0.46818		3.00	
L2452341-02 T	1	7	28.08090		150.00	
L2452349-01 T	1	8	4.63901		3.00	
L2452352-01 T	1	9	10.24639		3.00	
L2452366-01 T	1	10	2.00576		3.00	
CCV 0.4000	1	S6	0.43355	108%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.05920	102%		
		Known Conc:	100.00000			
CCB	1	S10	0.02259			
		Known Conc:	100.00000			
L2452447-01 T	1	11	1.73288		15.00	
L2452451-01 T	1	12	1.89763		3.00	
L2452474-02 T	1	13	1.41370		3.00	
L2452477-01 T	1	14	16.30866		6.00	
L2452477-02 T	1	15	4.68624		3.00	
L2452481-02 T	1	16	0.94793		3.00	
L2452482-01 T	1	17	2.45819		3.00	
L2452486-01 T	1	18	20.70851		3.00	
L2452490-01 T	1	19	6.33591		3.00	
L2452493-01 T	1	20	2.79622	105%	3.00	
CCV 0.4000	1	S6	0.43157	105%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.08069	102%		
		Known Conc:	100.00000			
CCB	1	S10	0.03230			
		Known Conc:	100.00000			
L2452636-07 T	1	21	0.06455		3.00	
L2452640-01 T	1	22	0.67674		3.00	
WG1973120-4 T; 52640.1 MS	1	23	9.04326		3.00	105%
WG1973120-3 T; 52640.1 DUP	1	24	1.02038		3.00	40% (← FRLC)
L2452785-01 T	1	25	0.25603		3.00	
CCV 0.4000	1	S6	0.39193	98%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.03942	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.02804			
		Known Conc:	100.00000			

Channel 2 (Ammonia High) - Current View

6.73993

5.27123

Volts

0.00000

0.5

Time : (s)

2377.0

Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)

56.99920

Peak Area (V.s)

0.00000

Concentration mg N/L

10.00000

Area = - 0.07763 * Conc^2 + 6.51530 * Conc + 0.05632
 Conc = 0.00038 * Area^2 + 0.15220 * Area - 0.00802
 Correlation Coefficient (r) = 1.00000

Weighting : 1/x

Original Run Filename: OM_9-19-2024_05-08-22PM.OMN Created: 9/19/2024 5:08:22 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_05-08-22PM.OMN Last Modified: 9/19/2024 5:36:49 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2 Ammonia (mg N/L)	ADF	MDF	Weight
CCV 0.4000	1	S6	0.38542	96%		
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCV 4.0000	1	S3	4.03731	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.02994			
		Known Conc:	100.00000			
WG1973578-1 T; BLK 9/19	1	1	0.01534			
WG1973578-2 T; HI LCS; 5X	1	2	40.06555		15.00	100%
LO LCS T	1	3	4.03258		3.00	101%
L2452500-01 T	1	4	24.20411		3.00	
L2452500-02 T	1	5	15.39015		15.00	
L2453053-01 T	1	6	0.27704		3.00	
WG1973578-4 T; 53053.1 MS	1	7	8.32544		3.00	104% NC (5.5 mL)
WG1973578-3 T; 53053.1 DUP	1	8	0.35199		3.00	
L2453053-02 T	1	9	0.13845		3.00	
L2453053-03 T	1	10	0.09273		3.00	
CCV 0.4000	1	S6	0.38701	97%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.03913	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.03362			
		Known Conc:	100.00000			
L2453053-04 T	1	11	0.14132		3.00	
L2453053-05 T	1	12	0.11311		3.00	
L2453058-01 T	1	13	0.05781		3.00	
WG1973578-6 T; 53058.1 MS	1	14	8.30130		3.00	104% NC (5.5 mL)
WG1973578-5 T; 53058.1 DUP	1	15	0.38208		3.00	
L2453058-02 T	1	16	0.10252		3.00	
L2453058-03 T	1	17	0.05644		3.00	
CCV 0.4000	1	S6	0.38197	96%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.03605	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.03163			
		Known Conc:	100.00000			

C

Channel 2 (Ammonia High) - Current View

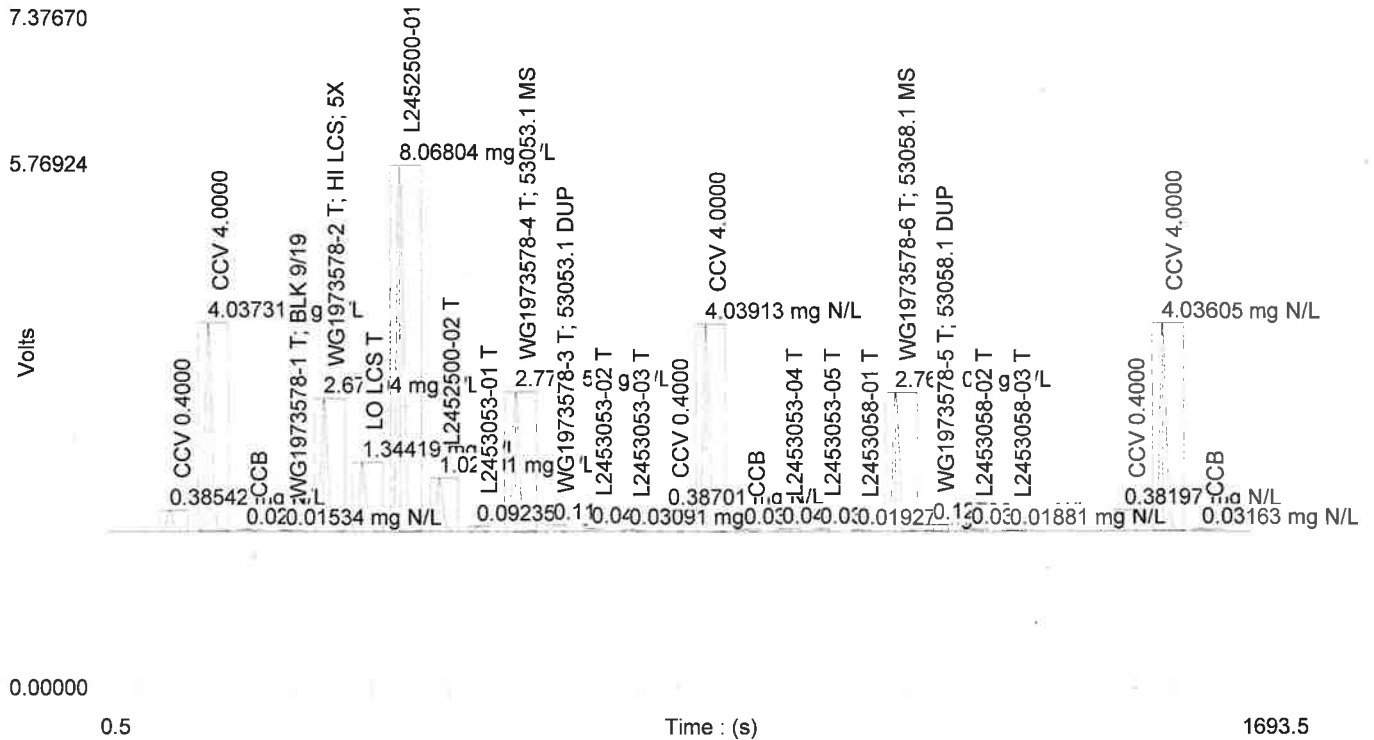
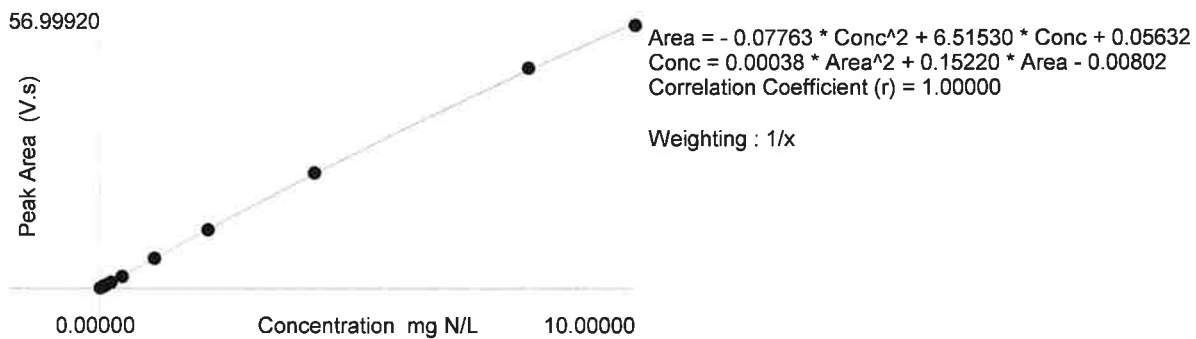


Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)



Original Run Filename: OM_9-19-2024_05-49-42PM.OMN Created: 9/19/2024 5:49:42 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_05-49-42PM.OMN Last Modified: 9/19/2024 6:31:27 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run



Sample	Rep.	Cup No.	Channel 2	ADF	MDF	Weight
			Ammonia (mg N/L)			
CCV 0.4000	1	S6	0.38358	96%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.98786	100%		
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCB	1	S10	0.03209	/		
		Known Conc:	100.00000			
WG1973486-1; BLK 9/19	1	1	0.01563		1.50	95%
WG1973486-2; HI LCS; 5X	1	2	19.03682		7.50	
LO LCS	1	3	2.00789	-	1.50	100%
L2453058-01	1	4	0.13386		1.50	
WG1973486-6; 53058.1 MS	1	5	4.19111		1.50	101%
WG1973486-5; 53058.1 DUP	1	6	0.18050	/	1.50	30% (L+R)
L2453058-02	1	7	0.05677		1.50	
L2453058-03	1	8	0.03196		1.50	
L2451391-03; 25X	1	9	477.34070		375.00	
L2451391-04	1	10	0.22995		1.50	
CCV 0.4000	1	S6	0.39222	98%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.99388	100%		
		Known Conc:	100.00000			
CCB	1	S10	0.03796	/		
		Known Conc:	100.00000			
L2451391-05	1	11	0.07174		1.50	
L2451391-06	1	12	0.05410		1.50	
L2451391-07	1	13	1.73000		1.50	
L2451391-08	1	14	0.09677		1.50	
L2451391-09	1	15	0.05556		1.50	
L2451391-10	1	16	0.03521		1.50	
L2451391-11	1	17	14.02313		1.50	
L2451391-12	1	18	0.31129		1.50	
L2451844-25	1	19	0.07513		1.50	
L2451844-26	1	20	0.04160		1.50	
CCV 0.4000	1	S6	0.39256	98%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.97829	100%		
		Known Conc:	100.00000			
CCB	1	S10	0.03896	/		
		Known Conc:	100.00000			
L2451844-27	1	21	0.16619	/	1.50	
L2451844-28	1	22	0.11110	/	1.50	
WG1973486-4; 51844.28 MS	1	23	4.23305		1.50	103%
WG1973486-3; 51844.28 DUP	1	24	0.24117	/	1.50	74% (L+R)
L2451844-29	1	25	0.12132		1.50	
L2451844-30	1	26	0.49016		1.50	
L2451844-31	1	27	0.10296	96%	1.50	
CCV 0.4000	1	S6	0.38236	99%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.94486			
		Known Conc:	100.00000			
CCB	1	S10	0.03794	/		
		Known Conc:	100.00000			

Channel 2 (Ammonia High) - Current View

7.69795

6.25027

Volts

0.00000

0.5

Time : (s)

2488.5

Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)

56.99920

Peak Area (V.s)

0.00000

Concentration mg N/L

10.00000

Area = - 0.07763 * Conc^2 + 6.51530 * Conc + 0.05632
 Conc = 0.00038 * Area^2 + 0.15220 * Area - 0.00802
 Correlation Coefficient (r) = 1.00000

Weighting : 1/x

Original Run Filename: OM_9-19-2024_06-32-03PM.OMN Created: 9/19/2024 6:32:03 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_06-32-03PM.OMN Last Modified: 9/19/2024 7:12:48 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2	ADF	MDF	Weight
			Ammonia (mg N/L)			
CCV 0.4000	1	S6	0.38434	96%		
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCV 4.0000	1	S3	3.92346	98%		
		Known Conc:	100.00000			
CCB	1	S10	0.03925	/		
		Known Conc:	100.00000			
WG1973678-1; BLK 9/19	1	1	0.02492		1.50	93%
WG1973678-2; HI LCS; 5X	1	2	18.67644		7.50	89%
LO LCS	1	3	1.78357		1.50	
L2451391-13	1	4	0.09784		1.50	
L2451391-14	1	5	0.06927		1.50	
L2451391-15	1	6	0.27680		7.50	
L2451391-16	1	7	0.52829		7.50	
L2451391-17	1	8	0.79660		1.50	
L2451391-18	1	9	0.09323		1.50	
L2451391-19	1	10	0.11540		1.50	
CCV 0.4000	1	S6	0.38517	96%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.96292	99%		
		Known Conc:	100.00000			
CCB	1	S10	0.03935	/		
		Known Conc:	100.00000			
L2451391-20	1	11	2.28184		1.50	
L2451391-21	1	12	0.12194		1.50	
L2451391-22	1	13	0.13967		7.50	
L2451391-23	1	14	0.01764		1.50	
L2451391-24	1	15	0.29198	/	1.50	
WG1973678-4; 51391.24 MS	1	16	4.48101	/	1.50	105%
WG1973678-3; 51391.24 DUP	1	17	0.37785	/	1.50	26%
L2451391-25	1	18	0.11240	/	1.50	
WG1973678-6; 51391.25 MS	1	19	4.15012	/	1.50	101%
WG1973678-5; 51391.25 DUP	1	20	0.22280	95%	1.50	66% (CERK)
CCV 0.4000	1	S6	0.39131	95%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.90511	98%		
		Known Conc:	100.00000			
CCB	1	S10	0.04412	/		
		Known Conc:	100.00000			
L2452511-01	1	21	0.07221		1.50	
L2452511-02	1	22	0.03100		1.50	
L2452522-01	1	23	0.01842		1.50	
L2452522-02	1	24	0.01604		1.50	
L2452525-01	1	25	0.03964		1.50	
L2452527-01	1	26	0.01560		1.50	
L2452531-01	1	27	0.01313	94%	1.50	
CCV 0.4000	1	S6	0.37648	97%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.87168	97%		
		Known Conc:	100.00000			
CCB	1	S10	0.04350	/		
		Known Conc:	100.00000			

E

Channel 2 (Ammonia High) - Current View

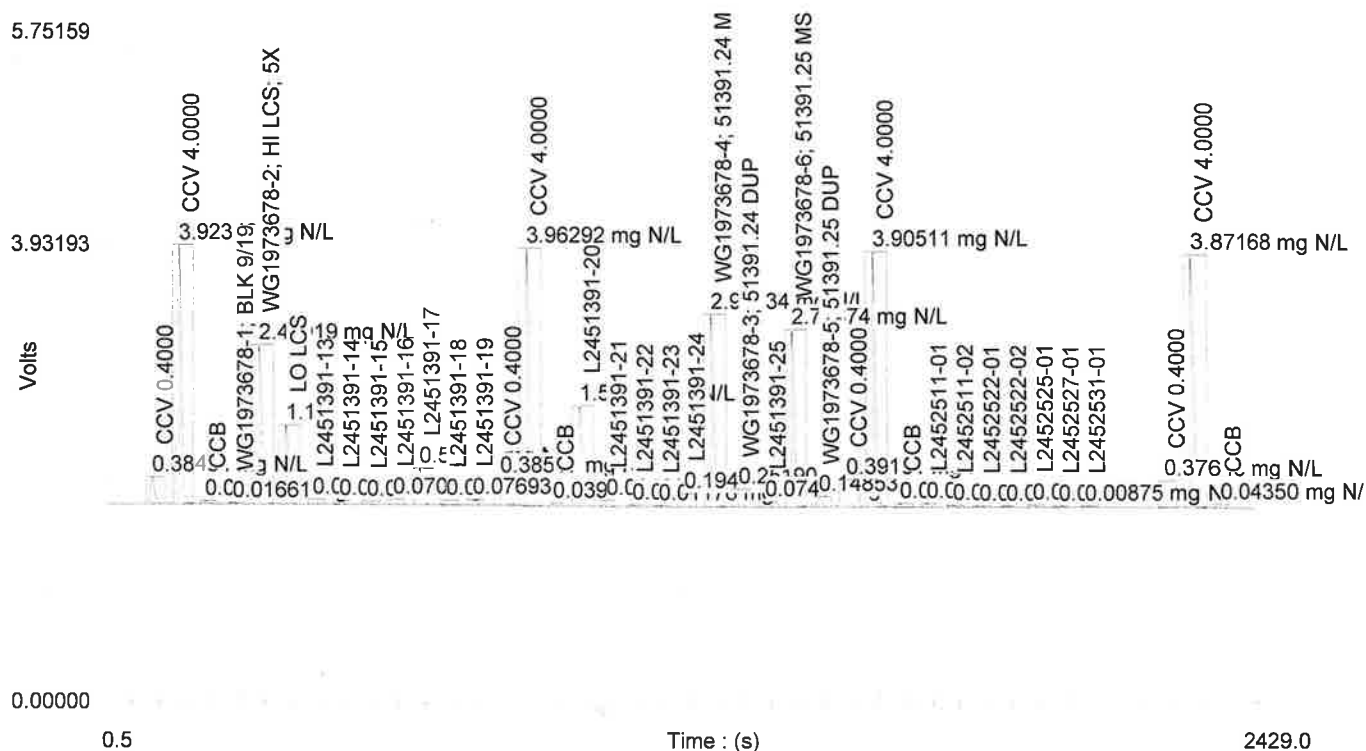
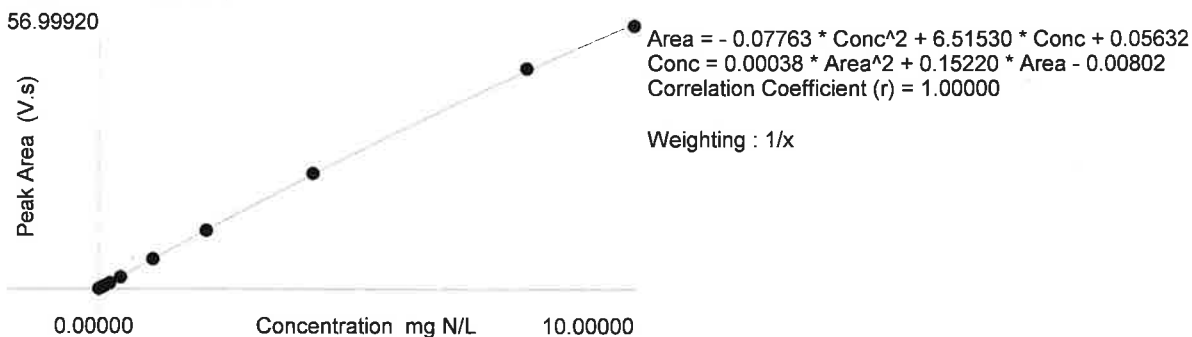


Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)



Quality Control

Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC	Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF	Project Number : 2232.0006Y005
Client Sample ID : NA	Matrix : WATER
Lab Sample ID : L2453053-01	
Matrix Spike : WG1973578-4	MS Analysis Date : 09/19/24 17:17
Matrix Spike Dup :	MSD Analysis Date :

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Nitrogen, Total Kjeldahl	0.277J	8	8.32	104					77-111	24

Form 5a Matrix Spike

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01		
Matrix Spike	: WG1973578-6	MS Analysis Date	: 09/19/24 17:27
Matrix Spike Dup	:	MSD Analysis Date	:

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Nitrogen, Total Kjeldahl	ND	8	8.30	104					77-111	24

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: NA	Matrix	: WATER
Lab Sample ID	: NA	Analysis Date	: 09/19/24 17:17
Dup Sample ID	: WG1973578-3	DUP Analysis Date	: 09/19/24 17:18

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Nitrogen, Total Kjeldahl	0.277J	0.352	NC	24

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/19/24 17:26
Dup Sample ID	: WG1973578-5	DUP Analysis Date	: 09/19/24 17:28

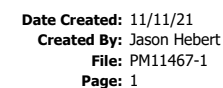
Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Nitrogen, Total Kjeldahl	ND	0.382	NC	24

Form 7

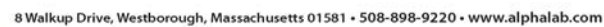
Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC
 Project Name : CORAM MATERIALS: CLOSED LF
 Client Sample ID : NA
 Lab Sample ID : WG1973578-2
 Dup Sample ID :
 Lab Number : L2453058
 Project Number : 2232.0006Y005
 Matrix : WATER
 LCS Analysis Date : 09/19/24 17:13
 LCSD Analysis Date :

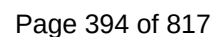
Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Nitrogen, Total Kjeldahl	40.0	40.1	100.					78-122	24

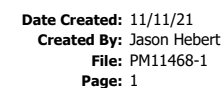
[illegible]

Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



Westborough, MA • Mansfield, MA • Bangor, ME • Portsmouth, NH • Mahwah, NJ • Albany, NY • Buffalo, NY • Holmes, PA

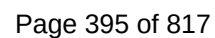


[illegible]

Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



Westborough, MA • Mansfield, MA • Bangor, ME • Portsmouth, NH • Mahwah, NJ • Albany, NY • Buffalo, NY • Holmes, PA





Calculations of Nitrogen in TKN

Aqueous samples:

Compute sample TKN –N concentration by comparing sample peak areas with standard curve, as determined by the Lachat instrument software.

If the sample has a concentration of less than 2ppm, calculate results by using the low curve generated on Channel 1.

If the sample concentration is greater than 2ppm, calculate the results by using the high curve generated on Channel 2.

To Compute the final results for aqueous samples, multiply the direct reading by the dilution factor based on the initial preparation volume. (also done using software)

$$\text{TKN-N mg/L} = \text{mg/L direct reading} \times \text{dilution factor}$$

Sequence Logs

Project No. _____

Initial Book No. _____

TITLE NH₃ 9/19/24

ge No. 2 A 10252-338m
9/19/24 01:15

T₂ B (04-27-438m)
9/18/24 17:23

ICV 8.0
LCV 1.0
ICB
WC1973478-1. Bk
-2: Ls

Lo Ls
52052-1 (2x)
2
52063-1
52066-1 (X) 20x (0.5110)
52486-1 -10x
52512-1

1 M
1 Duo
2
3
4

52621-1 (5x)
52623-1
52650-1
52651-1 -10x
52654-1
56668-1

2
3
4 -50x

52680-1
52715-1

02-57.41 PM

03-23 07 PM

1 WC1973170-1. Bk
2 -2: Ls
3 Lo Ls
4 52252-2 T
5 52286-1 T
6 52333-1 T
7 52341-2 T (50x)
8 52349-1 T
9 52352-1 T
10 52366-1 T
11 52447-1 T (5x)
12 52451-1 T
13 52474-2 T
14 52477-1 T (2x)
15 2 T
16 52481-2 T
17 52482-1 T
18 52486-1 T
19 52490-1 T
20 52493-1 T
21 52636-7 T
22 52640-1 T
23 5277-1 M
24 -1 Duo
25 52785-1 T
26

Date: 9/19/24
 Sodium Phenolate: 8/30/24 R-4065
 Sodium Hypochlorite: 8/30/24 R-5969
 Sodium Nitroprusside: 8/30/24 R-4019
 Boric Acid Soln.: 8/30/24 R-4019
 ICV 1.0: 9/11/24 WC-3476
 ICV 8.0: 9/11/24 WC-3476
 Cal. Std: 8/30/24 WC-3392

To Page No. _____

Date _____

Date See Front Page for Instructions:

Recorded by: _____

From Page No.

ty..C (05-08-228m)
 Pyp 9/19/24 @0738

- 1 Wk 1973578-1 T. Bk 9/19
- 2 Wk 1973578-2 T. Hi us T x
- 3 W us T
- 4 52500-1 T
- 5 .2 T (5r)
- 6 53053-1 T
- 7 Wk 1973578-4 T. 53053-1 ms
- 8 Wk 1973578-3 T. 53053-1 Tg
- 9 53053-2 T
- 10 .3 T
- 11 .4 T
- 12 .5 T
- 13 53058-1 T
- 14 Wk 1973578-6 T. 53058-1 ms
- 15 Wk 1973578-5 T. 53058-1 Tg
- 16 53058-2 T
- 17 .3 T

ty..D (05-49-428m)
 Pyp 9/19/24 @0220

- 1 Wk 1973486-1 Bk 9/19
- 2 Wk 1973486-2 T. Hi us T x
- 3 W us T
- 4 53058-1
- 5 Wk 1973486-6 T. 53058-1 ms
- 6 Wk 1973486-5 T. 53058-1 Tg
- 7 53058-2
- 8 .3
- 9 57591-3 (10+) -2-
- 10 .4
- 11 .5
- 12 .6
- 13 .7
- 14 .8
- 15 .9
- 16 .10
- 17 .11
- 18 .12
- 19 57844-25
- 20 .26
- 21 .27
- 22 28
- 23 Wk 1973486-4 T. 57844-28 ms
- 24 Wk 1973486-3 T. 57844-28 Tg
- 25 57844-29
- 26 .30
- 27 .31

Witnessed & Understood by me,

Date

Invented by:

To Page No

Date

Recorded by:

Project No. _____

dental

Book No. _____

TITLE _____

W13 9/19/24 (AT) Cont.

Page No. _____

fig. E (06-32-038M)
 9/19/24 @ 1653

- 1 W1-1973678-1. Blk 7/19
- 2 W1-1973678-2; Hi us 5x
- 3 W us
- 4 51391.13
- 5 .14
- 6 .15 (5x)
- 7 .16 (5x)
- 8 .17
- 9 .18
- 10 .19
- 11 .20
- 12 .21
- 13 .22 (5x)
- 14 .23
- 15 .24
- 16 W1-1973678-4; 51391.24 ms
- 17 W1-1973678-3; 51391.24 ms
- 18 51391.25
- 19 W1-1973678-6; 51391.25 ms
- 20 W1-1973678-5; 51391.25 ms
- 21 52511.1
- 22 .2
- 23 52522.1
- 24 .2
- 25 52525.1
- 26 52527.1
- 27 52531.1

To Page No. _____

Inspected & Understood by me, _____

Date _____

Invented by: _____

Date _____

Recorded by: _____

Sample Preparation



Sample	Volume 5ml	Dilution	Final Volume 150 ml
Blank		1x	
Low			
High			
52500-1			
-2			
53053-1 PA		5x(10+50) N=18	
-2		1x	
-3			
-4			
-5			
-1 DUP			
-1 MS			
53058-1 PA			
-1 DUP			
-1 MS			
-2			
-3			

Same standards
and reagents as
pg. # 89

09/19/24 @ 07:38 AJC

Distilled by SMO 09/19/24 @ 11:38

To Page No. _____

Witnessed & Understood by me, _____

Date _____

Invented by: _____

Date _____

Ammonia Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 17:57
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,350.1	Analyst	: AT
Lab File ID	: NH320240919-D	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7664-41-7	Nitrogen, Ammonia	0.134	0.075	0.024	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 18:00
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,350.1	Analyst	: AT
Lab File ID	: NH320240919-D	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7664-41-7	Nitrogen, Ammonia	0.056	0.075	0.024	J



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 18:01
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,350.1	Analyst	: AT
Lab File ID	: NH320240919-D	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7664-41-7	Nitrogen, Ammonia	0.032	0.075	0.024	J



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973486-1	Date Collected	: NA
Client ID	: WG1973486-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/19/24 17:54
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,350.1	Analyst	: AT
Lab File ID	: NH320240919-D	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7664-41-7	Nitrogen, Ammonia	ND	0.075	0.024	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973486-3	Date Collected	: 09/12/24 10:30
Client ID	: WG1973486-3 DUP	Date Received	: 09/12/24
Sample Location	:	Date Analyzed	: 09/19/24 18:21
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,350.1	Analyst	: AT
Lab File ID	: NH320240919-D	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7664-41-7	Nitrogen, Ammonia	0.241	0.075	0.024	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973486-5	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/19/24 17:59
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,350.1	Analyst	: AT
Lab File ID	: NH320240919-D	Instrument ID	: LACHAT
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7664-41-7	Nitrogen, Ammonia	0.180	0.075	0.024	



Sample Raw Data

Original Run Filename: OM_9-19-2024_02-32-33PM.OMN Created: 9/19/2024 2:32:33 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_02-32-33PM.OMN Last Modified: 9/19/2024 2:58:40 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

A

Sample	Rep.	Cup No.	Channel 2	ADF	MDF	Weight
			Ammonia (mg N/L)			
STD 1	1	S1	10.00000			
STD 2	1	S2	8.00000			
STD 3	1	S3	4.00000			
STD 4	1	S4	2.00000			
STD 5	1	S5	1.00000			
STD 6	1	S6	0.40000			
STD 7	1	S7	0.20000			
STD 8	1	S8	0.10000			
STD 9	1	S9	0.05000			
STD 10	1	S10	0.00000			
CCV 0.4000	1	S6	0.36797	92%		
Known Conc:			100.00000			
Calibration: Table/Fig. : 1				100%		
CCV 4.0000	1	S3	3.97753			
Known Conc:			100.00000			
CCB	1	S10	0.03328			
Known Conc:			100.00000			
HI ICV 8.0	1	1	7.89018	99%		
LO ICV 1.0	1	2	0.96665	99%		
ICB	1	3	0.02586			
WG1973478-1	1	4	0.01500		1.50	81%
WG1973478-2	1	5	16.13574		7.50	93%
LCS LO	1	6	1.85483		1.50	
L2452052-01	1	7	18.90273		3.00	
L2452052-02	1	8	0.49607		1.50	
L2452063-01	1	9	0.39304		1.50	
L2452066-01	1	10	22.81327		1.50	
CCV 0.4000	1	S6	0.80738			
Known Conc:			100.00000			

w/dilution.

reagent - OK

Channel 2 (Ammonia High) - Current View

9.93715

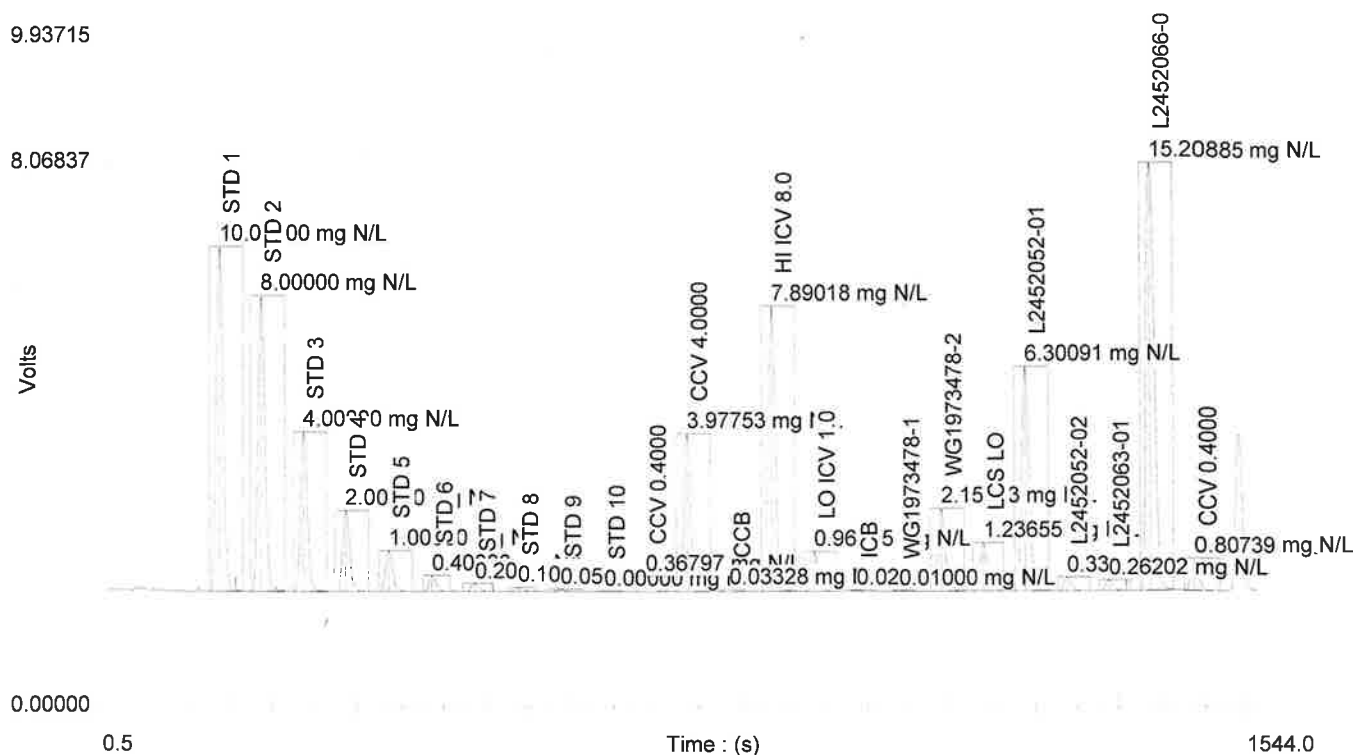
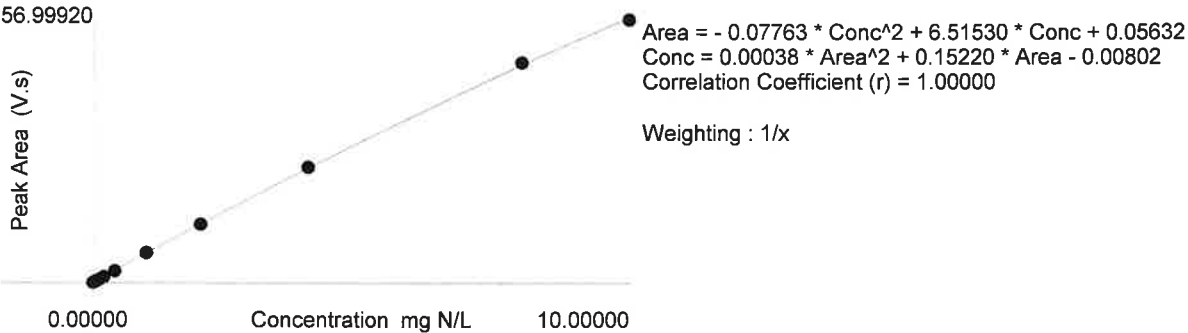


Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)

56.99920



Original Run Filename: OM_9-19-2024_02-59-41PM.OMN Created: 9/19/2024 2:59:41 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_02-59-41PM.OMN Last Modified: 9/19/2024 3:30:57 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2	ADF	MDF	Weight
			Ammonia (mg N/L)			
CCV 0.4000	1	S6	0.41599	101%		
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCV 4.0000	1	S3	4.01676	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.04923	/		
		Known Conc:	100.00000			
L2452486-01	1	11	15.33254		1.50	
L2452512-01	1	12	0.56325		1.50	
WG1973478-4	1	13	4.19356		1.50	
WG1973478-3	1	14	0.27435		1.50	
L2452512-02	1	15	0.05235		1.50	
L2452512-03	1	16	0.11620		1.50	
L2452512-04	1	17	0.05973		1.50	
L2452621-01	1	18	2.10134		7.50	
L2452623-01	1	19	0.27063		1.50	
L2452650-01	1	20	0.37497		1.50	
CCV 0.4000	1	S6	0.37944	95%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.98103	100%		
		Known Conc:	100.00000			
CCB	1	S10	0.04219	/		
		Known Conc:	100.00000			
L2452651-01	1	21	31.01604		1.50	
L2452654-01	1	22	1.12044		1.50	
L2452668-01	1	23	0.89843		1.50	
L2452668-02	1	24	3.62301		1.50	
L2452668-03	1	25	4.52545		1.50	
L2452668-04	1	26	50.91280		1.50	
L2452680-01	1	27	2.03025		1.50	
L2452715-01	1	28	0.37061		1.50	
L2452066-01; 20X	1	29	23.76126		30.00	
CCV 0.4000	1	S6	0.39921	100%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.00743	100%		
		Known Conc:	100.00000			
CCB	1	S10	0.06538			
		Known Conc:	100.00000			

A2

w/dilution.
101%.
56% (CS+HCL)

reinject - ok

Channel 2 (Ammonia High) - Current View

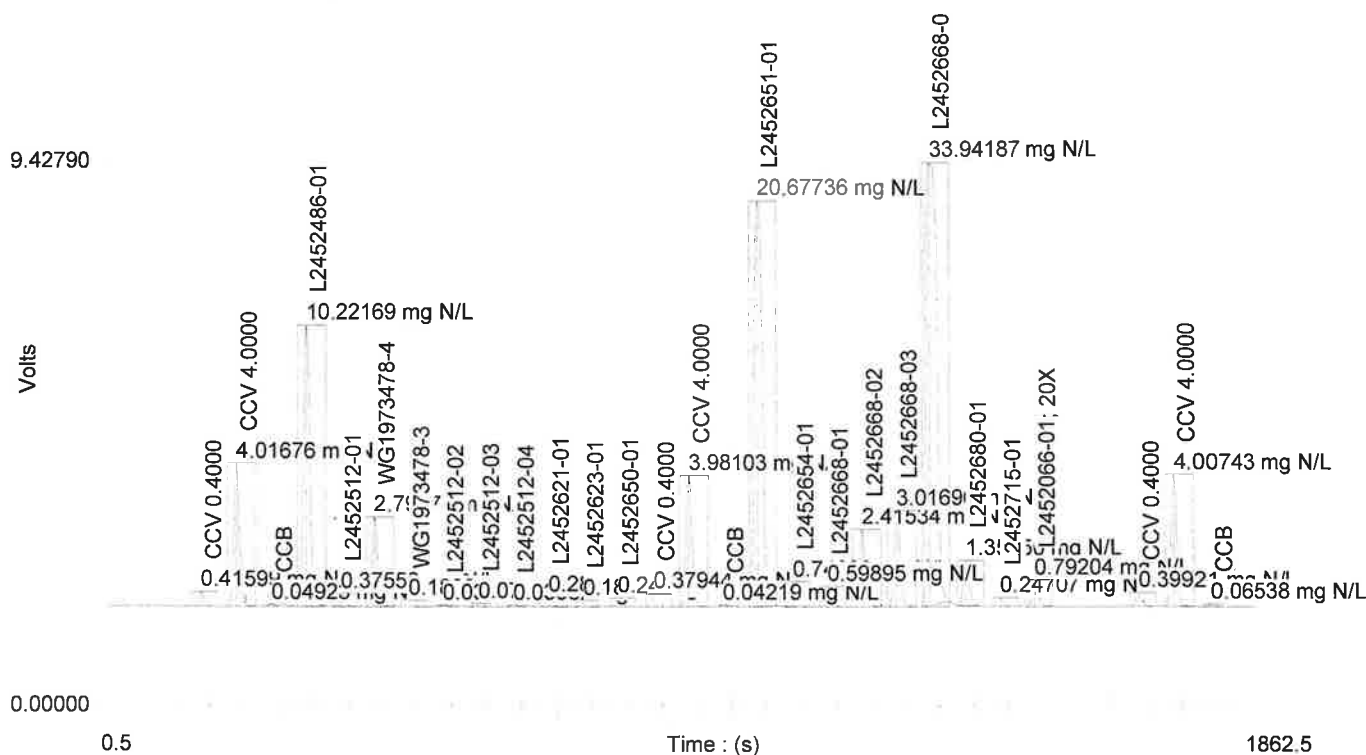


Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)

56.99920

Peak Area (V.s)

0.00000

Concentration mg N/L

10.00000

Area = - 0.07763 * Conc^2 + 6.51530 * Conc + 0.05632
 Conc = 0.00038 * Area^2 + 0.15220 * Area - 0.00802
 Correlation Coefficient (r) = 1.00000

Weighting : 1/x

Original Run Filename: OM_9-19-2024_03-43-09PM.OMN Created: 9/19/2024 3:43:09 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_03-43-09PM.OMN Last Modified: 9/19/2024 3:58:22 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2	ADF	MDF	Weight
			Ammonia (mg N/L)			
CCV 0.4000	1	S6	0.36739			
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.98562			
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCB	1	S10	0.04130			
		Known Conc:	100.00000			
L2452486-01; 10X	1	11	14.30680		15.00	
L2452512-01	1	12	0.15388		1.50	
L2452651-01; 10X	1	21	38.73191		15.00	
L2452654-01	1	22	0.48787		1.50	
L2452668-04; 50X	1	26	169.40408		75.00	
L2452680-01	1	27	0.42496		1.50	
CCV 0.4000	1	S6	0.37797			
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.99949			
		Known Conc:	100.00000			
CCB	1	S10	0.04393			
		Known Conc:	100.00000			

A3

Channel 2 (Ammonia High) - Current View

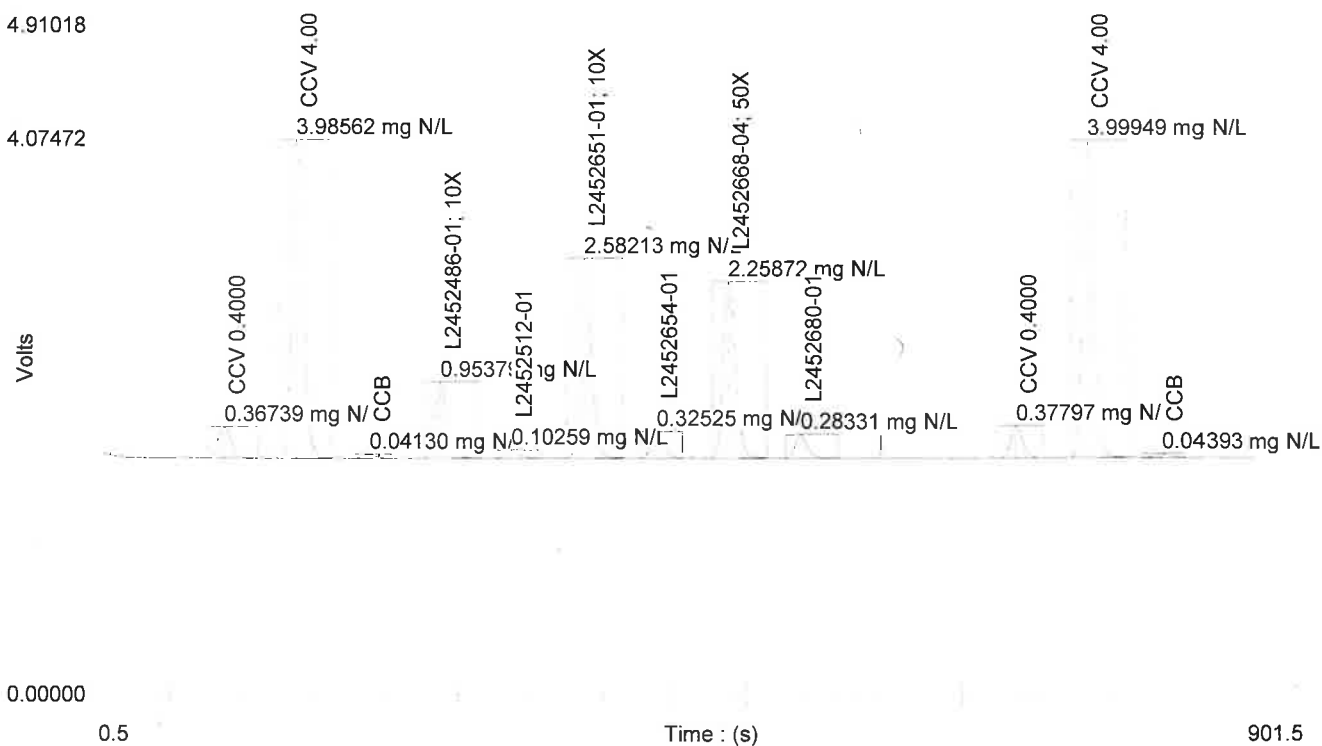
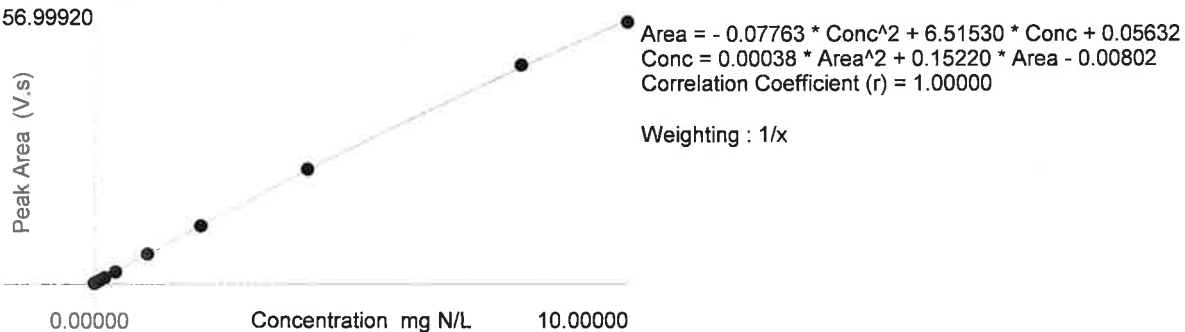


Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)

56.99920



Original Run Filename: OM_9-19-2024_04-27-43PM.OMN Created: 9/19/2024 4:27:43 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_04-27-43PM.OMN Last Modified: 9/19/2024 5:07:36 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2 Ammonia (mg N/L)	ADF	MDF	Weight
CCV 0.4000	1	S6	0.40018	100%		
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCV 4.0000	1	S3	4.06258	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.01920			
		Known Conc:	100.00000			
WG1973120-1 T; BLK 9/18	1	1	0.03601			
WG1973120-2 T; HI LCS; 5X	1	2	38.31075		15.00	96%
LO LCS T	1	3	4.03301		3.00	101%
L2452252-02 T	1	4	3.35270		3.00	
L2452286-01 T	1	5	0.21738		3.00	
L2452333-01 T	1	6	0.46818		3.00	
L2452341-02 T	1	7	28.08090		150.00	
L2452349-01 T	1	8	4.63901		3.00	
L2452352-01 T	1	9	10.24639		3.00	
L2452366-01 T	1	10	2.00576		3.00	
CCV 0.4000	1	S6	0.43355	108%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.05920	102%		
		Known Conc:	100.00000			
CCB	1	S10	0.02259			
		Known Conc:	100.00000			
L2452447-01 T	1	11	1.73288		15.00	
L2452451-01 T	1	12	1.89763		3.00	
L2452474-02 T	1	13	1.41370		3.00	
L2452477-01 T	1	14	16.30866		6.00	
L2452477-02 T	1	15	4.68624		3.00	
L2452481-02 T	1	16	0.94793		3.00	
L2452482-01 T	1	17	2.45819		3.00	
L2452486-01 T	1	18	20.70851		3.00	
L2452490-01 T	1	19	6.33591		3.00	
L2452493-01 T	1	20	2.79622	105%	3.00	
CCV 0.4000	1	S6	0.43157	105%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.08069	102%		
		Known Conc:	100.00000			
CCB	1	S10	0.03230			
		Known Conc:	100.00000			
L2452636-07 T	1	21	0.06455		3.00	
L2452640-01 T	1	22	0.67674		3.00	
WG1973120-4 T; 52640.1 MS	1	23	9.04326		3.00	105%
WG1973120-3 T; 52640.1 DUP	1	24	1.02038		3.00	40% (← FRLC)
L2452785-01 T	1	25	0.25603		3.00	
CCV 0.4000	1	S6	0.39193	98%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.03942	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.02804			
		Known Conc:	100.00000			

13

Channel 2 (Ammonia High) - Current View

6.73993

5.27123

Volts

0.00000

0.5

Time : (s)

2377.0

Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)

56.99920

Peak Area (V.s)

0.00000

Concentration mg N/L

10.00000

Area = - 0.07763 * Conc^2 + 6.51530 * Conc + 0.05632
 Conc = 0.00038 * Area^2 + 0.15220 * Area - 0.00802
 Correlation Coefficient (r) = 1.00000

Weighting : 1/x

Original Run Filename: OM_9-19-2024_05-08-22PM.OMN Created: 9/19/2024 5:08:22 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_05-08-22PM.OMN Last Modified: 9/19/2024 5:36:49 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2 Ammonia (mg N/L)	ADF	MDF	Weight
CCV 0.4000	1	S6	0.38542	96%		
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCV 4.0000	1	S3	4.03731	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.02994			
		Known Conc:	100.00000			
WG1973578-1 T; BLK 9/19	1	1	0.01534			
WG1973578-2 T; HI LCS; 5X	1	2	40.06555		15.00	100%
LO LCS T	1	3	4.03258		3.00	101%
L2452500-01 T	1	4	24.20411		3.00	
L2452500-02 T	1	5	15.39015		15.00	
L2453053-01 T	1	6	0.27704		3.00	
WG1973578-4 T; 53053.1 MS	1	7	8.32544		3.00	104% NC (5.5 mL)
WG1973578-3 T; 53053.1 DUP	1	8	0.35199		3.00	
L2453053-02 T	1	9	0.13845		3.00	
L2453053-03 T	1	10	0.09273		3.00	
CCV 0.4000	1	S6	0.38701	97%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.03913	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.03362			
		Known Conc:	100.00000			
L2453053-04 T	1	11	0.14132		3.00	
L2453053-05 T	1	12	0.11311		3.00	
L2453058-01 T	1	13	0.05781		3.00	
WG1973578-6 T; 53058.1 MS	1	14	8.30130		3.00	104% NC (5.5 mL)
WG1973578-5 T; 53058.1 DUP	1	15	0.38208		3.00	
L2453058-02 T	1	16	0.10252		3.00	
L2453058-03 T	1	17	0.05644		3.00	
CCV 0.4000	1	S6	0.38197	96%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	4.03605	101%		
		Known Conc:	100.00000			
CCB	1	S10	0.03163			
		Known Conc:	100.00000			

C

Channel 2 (Ammonia High) - Current View

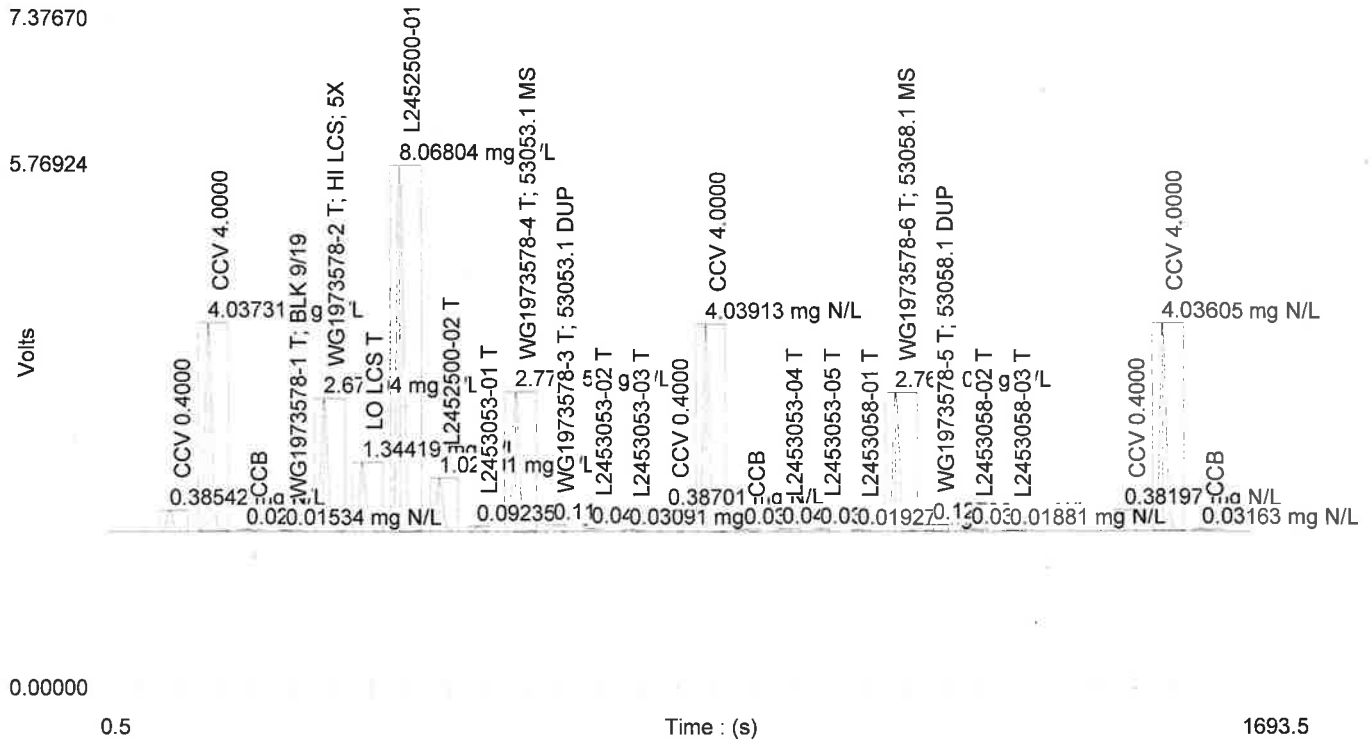
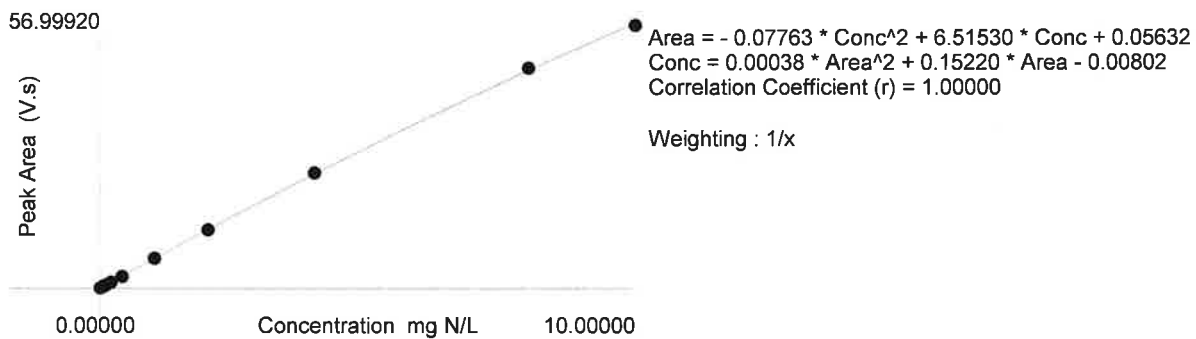


Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)



Original Run Filename: OM_9-19-2024_05-49-42PM.OMN Created: 9/19/2024 5:49:42 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_05-49-42PM.OMN Last Modified: 9/19/2024 6:31:27 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run



Sample	Rep.	Cup No.	Channel 2	ADF	MDF	Weight
			Ammonia (mg N/L)			
CCV 0.4000	1	S6	0.38358	96%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.98786	100%		
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCB	1	S10	0.03209	/		
		Known Conc:	100.00000			
WG1973486-1; BLK 9/19	1	1	0.01563		1.50	95%
WG1973486-2; HI LCS; 5X	1	2	19.03682		7.50	
LO LCS	1	3	2.00789	-	1.50	100%
L2453058-01	1	4	0.13386		1.50	
WG1973486-6; 53058.1 MS	1	5	4.19111		1.50	101%
WG1973486-5; 53058.1 DUP	1	6	0.18050	/	1.50	30% (L5+R4)
L2453058-02	1	7	0.05677		1.50	
L2453058-03	1	8	0.03196		1.50	
L2451391-03; 25X	1	9	477.34070		375.00	
L2451391-04	1	10	0.22995		1.50	
CCV 0.4000	1	S6	0.39222	98%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.99388	100%		
		Known Conc:	100.00000			
CCB	1	S10	0.03796	/		
		Known Conc:	100.00000			
L2451391-05	1	11	0.07174		1.50	
L2451391-06	1	12	0.05410		1.50	
L2451391-07	1	13	1.73000		1.50	
L2451391-08	1	14	0.09677		1.50	
L2451391-09	1	15	0.05556		1.50	
L2451391-10	1	16	0.03521		1.50	
L2451391-11	1	17	14.02313		1.50	
L2451391-12	1	18	0.31129		1.50	
L2451844-25	1	19	0.07513		1.50	
L2451844-26	1	20	0.04160		1.50	
CCV 0.4000	1	S6	0.39256	98%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.97829	100%		
		Known Conc:	100.00000			
CCB	1	S10	0.03896	/		
		Known Conc:	100.00000			
L2451844-27	1	21	0.16619		1.50	
L2451844-28	1	22	0.11110	/	1.50	
WG1973486-4; 51844.28 MS	1	23	4.23305		1.50	103%
WG1973486-3; 51844.28 DUP	1	24	0.24117	/	1.50	74% (L5+R4)
L2451844-29	1	25	0.12132		1.50	
L2451844-30	1	26	0.49016		1.50	
L2451844-31	1	27	0.10296	96%	1.50	
CCV 0.4000	1	S6	0.38236	99%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.94486			
		Known Conc:	100.00000			
CCB	1	S10	0.03794	/		
		Known Conc:	100.00000			

Channel 2 (Ammonia High) - Current View

7.69795

6.25027

Volts

0.00000

0.5

Time : (s)

2488.5

Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)

56.99920

Peak Area (V.s)

0.00000

Concentration mg N/L

10.00000

Area = - 0.07763 * Conc^2 + 6.51530 * Conc + 0.05632
 Conc = 0.00038 * Area^2 + 0.15220 * Area - 0.00802
 Correlation Coefficient (r) = 1.00000

Weighting : 1/x

Original Run Filename: OM_9-19-2024_06-32-03PM.OMN Created: 9/19/2024 6:32:03 PM

Original Run Author's Signature: [A1WETCHEMINSTRUMENT]

Current Run Filename: OM_9-19-2024_06-32-03PM.OMN Last Modified: 9/19/2024 7:12:48 PM

Current Run Author's Signature: [A1WETCHEMINSTRUMENT]

Description: Default New Run

Sample	Rep.	Cup No.	Channel 2	ADF	MDF	Weight
			Ammonia (mg N/L)			
CCV 0.4000	1	S6	0.38434	96%		
		Known Conc:	100.00000			
		Calibration:	Table/Fig. : 1			
CCV 4.0000	1	S3	3.92346	98%		
		Known Conc:	100.00000			
CCB	1	S10	0.03925	/		
		Known Conc:	100.00000			
WG1973678-1; BLK 9/19	1	1	0.02492		1.50	93%
WG1973678-2; HI LCS; 5X	1	2	18.67644		7.50	89%
LO LCS	1	3	1.78357		1.50	
L2451391-13	1	4	0.09784		1.50	
L2451391-14	1	5	0.06927		1.50	
L2451391-15	1	6	0.27680		7.50	
L2451391-16	1	7	0.52829		7.50	
L2451391-17	1	8	0.79660		1.50	
L2451391-18	1	9	0.09323		1.50	
L2451391-19	1	10	0.11540		1.50	
CCV 0.4000	1	S6	0.38517	96%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.96292	99%		
		Known Conc:	100.00000			
CCB	1	S10	0.03935	/		
		Known Conc:	100.00000			
L2451391-20	1	11	2.28184		1.50	
L2451391-21	1	12	0.12194		1.50	
L2451391-22	1	13	0.13967		7.50	
L2451391-23	1	14	0.01764		1.50	
L2451391-24	1	15	0.29198	/	1.50	
WG1973678-4; 51391.24 MS	1	16	4.48101	/	1.50	105%
WG1973678-3; 51391.24 DUP	1	17	0.37785	/	1.50	26%
L2451391-25	1	18	0.11240	/	1.50	
WG1973678-6; 51391.25 MS	1	19	4.15012	/	1.50	101%
WG1973678-5; 51391.25 DUP	1	20	0.22280	95%	1.50	66% (CERK)
CCV 0.4000	1	S6	0.39131	95%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.90511	98%		
		Known Conc:	100.00000			
CCB	1	S10	0.04412	/		
		Known Conc:	100.00000			
L2452511-01	1	21	0.07221		1.50	
L2452511-02	1	22	0.03100		1.50	
L2452522-01	1	23	0.01842		1.50	
L2452522-02	1	24	0.01604		1.50	
L2452525-01	1	25	0.03964		1.50	
L2452527-01	1	26	0.01560		1.50	
L2452531-01	1	27	0.01313	94%	1.50	
CCV 0.4000	1	S6	0.37648	97%		
		Known Conc:	100.00000			
CCV 4.0000	1	S3	3.87168	97%		
		Known Conc:	100.00000			
CCB	1	S10	0.04350	/		
		Known Conc:	100.00000			

E

Channel 2 (Ammonia High) - Current View

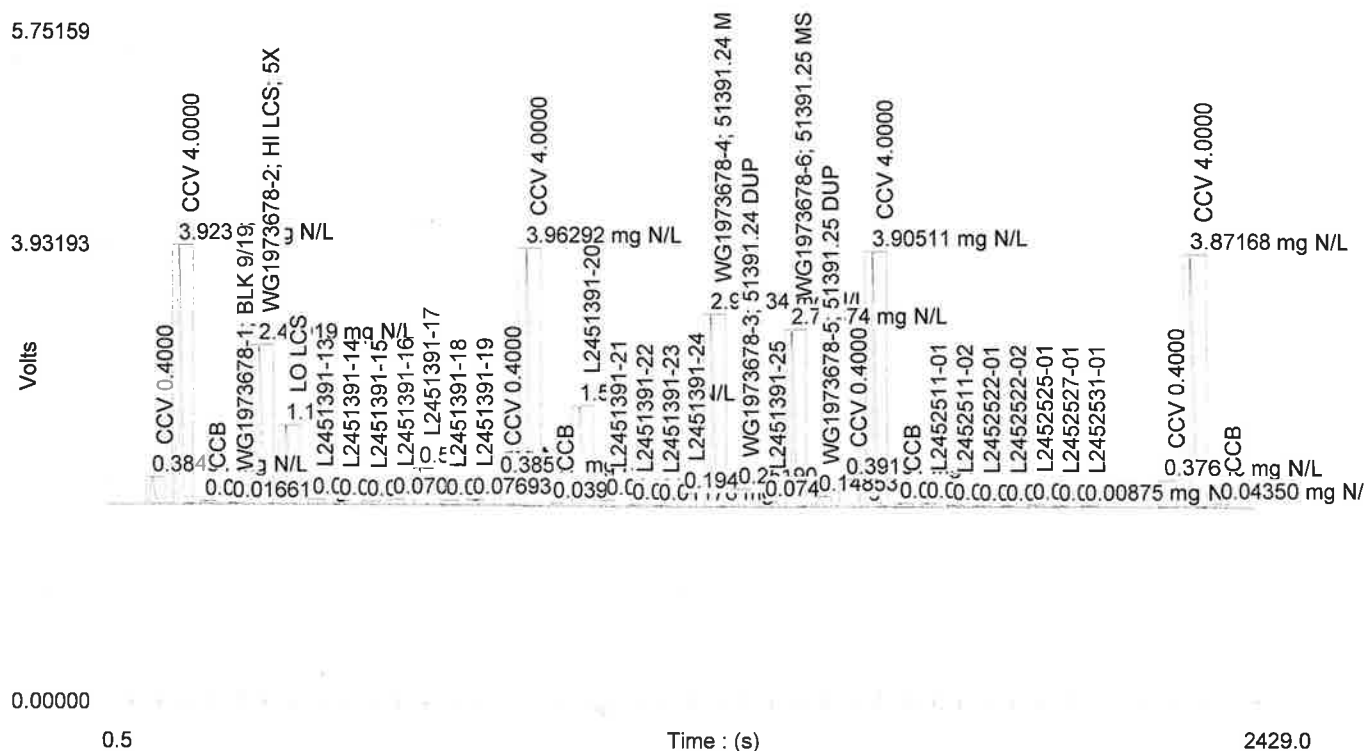
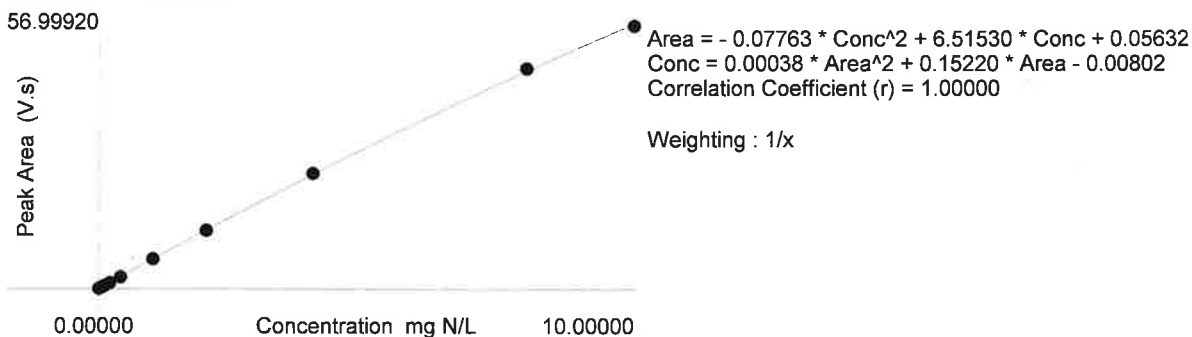


Table : 1 (Ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	10.00000	1	56.99920	5.11504	0.0	0.8	9.88975	9/19/2024	2:34:32 PM
2	8.00000	1	47.73017	4.38613	0.0	-1.1	8.11371	9/19/2024	2:35:29 PM
3	4.00000	1	25.00774	2.36931	0.0	-0.5	4.03343	9/19/2024	2:36:26 PM
4	2.00000	1	12.68482	1.20710	0.0	0.7	1.98312	9/19/2024	2:37:23 PM
5	1.00000	1	6.50206	0.61545	0.0	-0.1	0.99748	9/19/2024	2:38:21 PM
6	0.40000	1	2.55357	0.23877	0.0	3.6	0.38308	9/19/2024	2:39:19 PM
7	0.20000	1	1.32555	0.12013	0.0	2.3	0.19439	9/19/2024	2:40:17 PM
8	0.10000	1	0.70259	0.06329	0.0	0.6	0.09910	9/19/2024	2:41:16 PM
9	0.05000	1	0.39167	0.03187	0.0	-2.6	0.05165	9/19/2024	2:42:13 PM
10	0.00000	1	0.06772	0.00458			0.00229	9/19/2024	2:43:10 PM

Figure : 1 (Ammonia)



Quality Control

Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC	Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF	Project Number : 2232.0006Y005
Client Sample ID : NA	Matrix : WATER
Lab Sample ID : L2451844-28	
Matrix Spike : WG1973486-4	MS Analysis Date : 09/19/24 18:21
Matrix Spike Dup :	MSD Analysis Date :

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Nitrogen, Ammonia	0.111	4	4.23	103					90-110	20

Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC	Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF	Project Number : 2232.0006Y005
Client Sample ID : MW-15R	Matrix : WATER
Lab Sample ID : L2453058-01	
Matrix Spike : WG1973486-6	MS Analysis Date : 09/19/24 17:58
Matrix Spike Dup :	MSD Analysis Date :

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Nitrogen, Ammonia	0.134	4	4.19	101					90-110	20

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: NA	Matrix	: WATER
Lab Sample ID	: NA	Analysis Date	: 09/19/24 18:20
Dup Sample ID	: WG1973486-3	DUP Analysis Date	: 09/19/24 18:21

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Nitrogen, Ammonia	0.111	0.241	74 Q	20

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/19/24 17:57
Dup Sample ID	: WG1973486-5	DUP Analysis Date	: 09/19/24 17:59

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Nitrogen, Ammonia	0.134	0.180	29 Q	20

Form 7 Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : NA Lab Sample ID : WG1973486-2 Dup Sample ID :	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER LCS Analysis Date : 09/19/24 17:55 LCSD Analysis Date :

Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Nitrogen, Ammonia	20.0	19.0	95.					90-110	20



Date Created: 11/11/21
Created By: Jason Hebert
File: PM11467-1
Page: 1

WETCHEM (WATER)

[illegible]

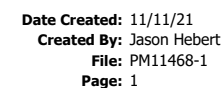
Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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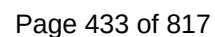


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Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Calculations of Nitrogen in Ammonia

Aqueous samples:

Compute sample $\text{NH}_3\text{-N}$ concentration by comparing sample peak areas with standard curve, as determined by the Lachat instrument software.

If the sample has a concentration of less than 2ppm, calculate results by using the low curve generated on Channel 1.

If the sample concentration is greater than 2ppm, calculate the results by using the high curve generated on Channel 2.

To Compute the final results for aqueous samples, multiply the direct reading by the dilution factor based on the initial preparation volume. (also done using software)

$$\text{NH}_3\text{-N mg/L} = \text{mg/L direct reading} \times \text{dilution factor}$$

Sequence Logs

Project No. _____

Initial Book No. _____

TITLE NH₃ 9/19/24

ge No. 2
A 10252-338m
9/19/24 01:15

Ty B (04-27-438m)
9/18/24 17:23

ICV 8.0
LCV 1.0
ICB
WC1973478-1 Bk
-2: Ls

Lo Ls
52052-1 (2x)
2
52063-1
52066-1 (X) 20x (0.5110)
52486-1 -10x
52512-1

1 M
1 Duo
2
3
4

52621-1 (5x)
52623-1
52650-1
52651-1 -10x
52654-1
56668-1

2
3
4 -50x

52680-1
52715-1

02-57.41 PM

03-23 07 PM

1 WC1973170-1 Bk
2 -2: Ls
3 Lo Ls
4 52252-2 T
5 52286-1 T
6 52333-1 T
7 52341-2 T (50x)
8 52349-1 T
9 52352-1 T
10 52366-1 T
11 52447-1 T (5x)
12 52451-1 T
13 52474-2 T
14 52477-1 T (2x)
15 2 T
16 52481-2 T
17 52482-1 T
18 52486-1 T
19 52490-1 T
20 52493-1 T
21 52636-7 T
22 52640-1 T
23 5277-1 M
24 -1 Duo
25 52785-1 T
26

Date: 9/19/24
 Sodium Phenolate: 8/30/24 R-4065
 Sodium Hypochlorite: 8/30/24 R-5969
 Sodium Nitroprusside: 8/30/24 R-4019
 Boric Acid Soln.: 8/30/24 R-4019
 ICV 1.0: 9/11/24 WC-3476
 ICV 8.0: 9/11/24 WC-3476
 Cal. Std: 8/30/24 WC-3392

To Page No. _____

Date _____

Date See Front Page for Instructions:

Recorded by: _____

From Page No.

ty..C (05-08-228m)
 Pyp 9/19/24 @0738

- 1 Wk 1973578-1 T. Bk 9/19
- 2 Wk 1973578-2 T. Hi us T x
- 3 Wk us T
- 4 52500-1 T
- 5 .2 T (5r)
- 6 53053-1 T
- 7 Wk 1973578-4 T. 53053-1 ms
- 8 Wk 1973578-3 T. 53053-1 Tg
- 9 53053-2 T
- 10 .3 T
- 11 .4 T
- 12 .5 T
- 13 53058-1 T
- 14 Wk 1973578-6 T. 53058-1 ms
- 15 Wk 1973578-5 T. 53058-1 Tg
- 16 53058-2 T
- 17 .3 T

ty..D (05-49-428m)
 Pyp 9/19/24 @0220

- 1 Wk 1973486-1 Bk 9/19
- 2 Wk 1973486-2 T. Hi us T x
- 3 Wk us
- 4 53058-1
- 5 Wk 1973486-6 T. 53058-1 ms
- 6 Wk 1973486-5 T. 53058-1 Tg
- 7 53058-2
- 8 .3
- 9 57591-3 (10+) -2-
- 10 .4
- 11 .5
- 12 .6
- 13 .7
- 14 .8
- 15 .9
- 16 .10
- 17 .11
- 18 .12
- 19 57844-25
- 20 .26
- 21 .27
- 22 28
- 23 Wk 1973486-4 T. 57844-28 ms
- 24 Wk 1973486-3 T. 57844-28 Tg
- 25 57844-29
- 26 .30
- 27 .31

Witnessed & Understood by me,

Date

Invented by:

To Page No

Date

Recorded by:

Project No. _____

dental

Book No. _____

TITLE _____

W13 9/19/24 (A) Cont.

Page No. _____

fig. E (06-32-038M)
 9/19/24 @ 1653

- 1 W1-1973678-1. Blk 7/19
- 2 W1-1973678-2; Hi us 5x
- 3 W us
- 4 51391.13
- 5 .14
- 6 .15 (5x)
- 7 .16 (5x)
- 8 .17
- 9 .18
- 10 .19
- 11 .20
- 12 .21
- 13 .22 (5x)
- 14 .23
- 15 .24
- 16 W1-1973678-4; 51391.24 ms
- 17 W1-1973678-3; 51391.24 ms
- 18 51391.25
- 19 W1-1973678-6; 51391.25 ms
- 20 W1-1973678-5; 51391.25 ms
- 21 52511.1
- 22 .2
- 23 52522.1
- 24 .2
- 25 52525.1
- 26 52527.1
- 27 52531.1

To Page No. _____

Inspected & Understood by me, _____

Date _____

Invented by: _____

Date _____

Recorded by: _____

Sample Preparation

rom Page No. _____

Sample	Volume /100 ml	Dilution	Int. pH ~2	Adj. pH ~9.5	Final Vol. /50 ml
Blank		1x			
Low		↓			
High					
51391-3		10x(100/100) 1x.			
-4		1x			
-5					
-6					
-7					
-8					
-9					
-10					
-11					
-12					
51844-25					
-26					
-27					
-28 PA					
-28 DUP					
-28 MS					
-29					
-30					
-31					
53058-1 PA					
-1 DUP					
-1 MS					
-2					
-3					

Same standards
and reagents as
pg. # 42

09/19/24 @ 02:20 AJC

Witnessed & Understood by me,	Date	Invented by:	Date
		Recorded by:	

Nitrate and Nitrite Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/18/24 05:01
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,353.2	Analyst	: KAF
Lab File ID	: NO3240918-A1	Instrument ID	: FIA1
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
14797-55-8	Nitrogen, Nitrate	0.93	0.10	0.023	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/18/24 05:08
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,353.2	Analyst	: KAF
Lab File ID	: NO3240918-A1	Instrument ID	: FIA1
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
14797-55-8	Nitrogen, Nitrate	1.4	0.10	0.023	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/18/24 05:09
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,353.2	Analyst	: KAF
Lab File ID	: NO3240918-A1	Instrument ID	: FIA1
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
14797-55-8	Nitrogen, Nitrate	1.4	0.10	0.023	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1972899-1	Date Collected	: NA
Client ID	: WG1972899-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/18/24 04:26
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,353.2	Analyst	: KAF
Lab File ID	: NO3240918-A1	Instrument ID	: FIA1
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
14797-55-8	Nitrogen, Nitrate	ND	0.10	0.023	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1972899-3	Date Collected	: 09/17/24 00:00
Client ID	: WG1972899-3 DUP	Date Received	: 09/17/24
Sample Location	:	Date Analyzed	: 09/18/24 07:53
Sample Matrix	: WATER	Dilution Factor	: 10
Analytical Method	: 44,353.2	Analyst	: KAF
Lab File ID	: NO3240918-A1	Instrument ID	: FIA1
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
14797-55-8	Nitrogen, Nitrate	70.	1.0	0.23	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1972899-5	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/18/24 05:02
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,353.2	Analyst	: KAF
Lab File ID	: NO3240918-A1	Instrument ID	: FIA1
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
14797-55-8	Nitrogen, Nitrate	0.93	0.10	0.02	



Sample Raw Data

Graphical report generated by FIAsoft v3.1.10

Report generated on 2024-09-18 08:49:47

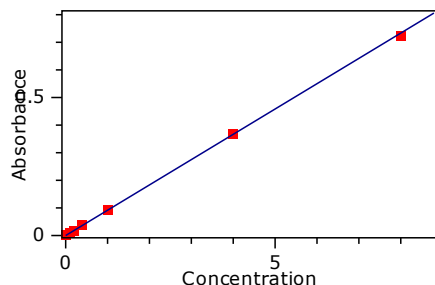
Data file (.dat): C:\FIALab\Autosave Data\2024-09-18-084921.dat

Dataset Notes:

Analyst	

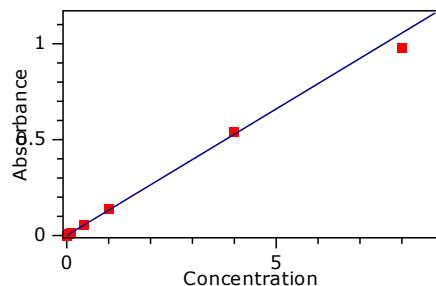
Dataset Notes Table Location: C:\FIALab\FIALab User Files\Tables\Dataset Notes\Analyst.csv

Calibrations:



Channel: 1-NOx
 Fit_Order: 1
 Weighting: 1/response
 Standard relation
 Coefficients:
 A: -0.00006
 B: 0.09168
 R^2 : 0.99991
 RSE(%): 1.09008
 % Max. for OVR: 100

InjNo	Name	Response	Known Conc. mg/L	Calc. Conc. mg/L	% Error	Time
2	NOx 8.0ppm	0.72430	8.00000	7.90080	1.24	2024-09-18T03:36:18
3	NOx 4.0ppm	0.36920	4.00000	4.02790	0.70	2024-09-18T03:37:28
4	NOx 1.0ppm	0.09270	1.00000	1.01230	1.23	2024-09-18T03:38:35
5	NOx 0.4ppm	0.03660	0.40000	0.40020	0.05	2024-09-18T03:39:43
6	NOx 0.2ppm	0.01810	0.20000	0.19790	1.03	2024-09-18T03:40:52
7	NOx 0.1ppm	0.00910	0.10000	0.10040	0.39	2024-09-18T03:42:03
8	NOx 0.0ppm	0.00010	0.00000	0.00170	NA	2024-09-18T03:43:11



Channel: 2-NO2
 Fit_Order: 1
 Weighting: 1/response
 Standard relation
 Coefficients:
 A: 0.00036
 B: 0.13195
 R^2 : 0.99787
 RSE(%): 4.53129
 % Max. for OVR: 100

InjNo	Name	Response	Known Conc. mg/L	Calc. Conc. mg/L	% Error	Time
9	Nitrite 8.0ppm	0.98050	8.00000	7.42820	7.15	2024-09-18T03:44:12
10	Nitrite 4.0ppm	0.53920	4.00000	4.08370	2.09	2024-09-18T03:45:22
11	Nitrite 1.0ppm	0.13640	1.00000	1.03110	3.11	2024-09-18T03:46:28
12	Nitrite 0.4ppm	0.05520	0.40000	0.41570	3.93	2024-09-18T03:47:38
13	Nitrite 0.1ppm	0.01370	0.10000	0.10070	0.74	2024-09-18T03:48:48
14	Nitrite 0.05ppm	0.00690	0.05000	0.04950	1.00	2024-09-18T03:49:58
15	Nitrite 0.0ppm	0.00010	0.00000	-0.00190	NA	2024-09-18T03:51:11

Results:

Channel: 1-NOx

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
Stabil	1	Unknown	?	0.0005	1	1	1	0.0062		2024-09-18T03:35:04
NOx 8.0ppm	2	Standard	8	0.7243	1	1	1	7.9008		2024-09-18T03:36:18
NOx 4.0ppm	3	Standard	4	0.3692	1	1	1	4.0279		2024-09-18T03:37:28
NOx 1.0ppm	4	Standard	1	0.0927	1	1	1	1.0123		2024-09-18T03:38:35
NOx 0.4ppm	5	Standard	0.4	0.0366	1	1	1	0.4002		2024-09-18T03:39:43
NOx 0.2ppm	6	Standard	0.2	0.0181	1	1	1	0.1979		2024-09-18T03:40:52
NOx 0.1ppm	7	Standard	0.1	0.0091	1	1	1	0.1004		2024-09-18T03:42:03
NOx 0.0ppm	8	Standard	0	0.0001	1	1	1	0.0017		2024-09-18T03:43:11
Nitrite 8.0ppm	9	Standard	?	0.7111	1	1	1	7.7568		2024-09-18T03:44:23
Nitrite 4.0ppm	10	Standard	?	0.3788	1	1	1	4.1321		2024-09-18T03:45:33
Nitrite 1.0ppm	11	Standard	?	0.0924	1	1	1	1.0089		2024-09-18T03:46:41
Nitrite 0.4ppm	12	Standard	?	0.0374	1	1	1	0.4085		2024-09-18T03:47:49
Nitrite 0.1ppm	13	Standard	?	0.0090	1	1	1	0.0986		2024-09-18T03:48:59
Nitrite 0.05ppm	14	Standard	?	0.0046	1	1	1	0.0505		2024-09-18T03:50:10
Nitrite 0.0ppm	15	Standard	?	0.0001	1	1	1	0.0019		2024-09-18T03:51:18
CCV NO3	16	QC	1	0.0945	1	1	1	1.0317		2024-09-18T03:52:27
CCV NO2	17	QC	?	0.0939	1	1	1	1.0253		2024-09-18T03:53:33
CCB	18	QC	0	-0.0001	1	1	1	0.0001		2024-09-18T03:54:20
ICV NO3 5.0	19	QC	5	0.4606	1	1	1	5.0252		2024-09-18T03:55:51
ICV NO2 5.0	20	QC	?	0.4599	1	1	1	5.0172		2024-09-18T03:57:00
ICV NO3 0.5	21	QC	0.5	0.0438	1	1	1	0.4783		2024-09-18T03:58:08
ICV NO2 0.5	22	QC	?	0.0459	1	1	1	0.5011		2024-09-18T03:59:16
ICB	23	QC	0	0.0000	1	1	1	0.0002		2024-09-18T04:00:01
BLANK NO3	24	Unknown	?	0.0000	1	1	1	0.0011		2024-09-18T04:01:31
LCS NO3	25	Unknown	?	0.4599	1	1	1	5.0168		2024-09-18T04:02:41
BLANK NO2	26	Unknown	?	-0.0002	1	1	1	-0.0016		2024-09-18T04:03:22
LCS NO2	27	Unknown	?	0.4617	1	1	1	5.0365		2024-09-18T04:04:54
CCV NO3	28	QC	1	0.0923	1	1	1	1.0069		2024-09-18T04:06:00
CCV NO2	29	QC	?	0.0945	1	1	1	1.0317		2024-09-18T04:07:05
CCB	30	QC	0	0.0000	1	1	1	0.0005		2024-09-18T04:07:53
WG1972890-1	31	Unknown	?	0.0000	1	1	1	0.0012		2024-09-18T04:09:26
WG1972890-2	32	Unknown	?	0.4618	1	1	1	5.0380		2024-09-18T04:10:32

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
WG1972893-1	33	Unknown	?	-0.0003	1	1	1	-0.0023		2024-09-18T04:11:12
WG1972893-2	34	Unknown	?	0.4639	1	1	1	5.0610		2024-09-18T04:12:43
WG1972894-1	35	Unknown	?	-0.0002	1	1	1	-0.0014		2024-09-18T04:13:24
WG1972894-2	36	Unknown	?	0.4611	1	1	1	5.0298		2024-09-18T04:14:56
WG1972896-1; WG1972908-1	37	Unknown	?	-0.0002	1	1	1	-0.0017		2024-09-18T04:15:38
WG1972896-2; WG1972908-2	38	Unknown	?	0.4668	1	1	1	5.0928		2024-09-18T04:17:10
WG1972897-1	39	Unknown	?	-0.0002	1	1	1	-0.0015		2024-09-18T04:17:52
WG1972897-2	40	Unknown	?	0.4656	1	1	1	5.0794		2024-09-18T04:19:24
CCV NO3	41	QC	1	0.0924	1	1	1	1.0084		2024-09-18T04:20:29
CCV NO2	42	QC	?	0.0950	1	1	1	1.0369		2024-09-18T04:21:35
CCB	43	QC	0	0.0000	1	1	1	0.0008		2024-09-18T04:22:21
WG1972898-1	44	Unknown	?	0.0001	1	1	1	0.0013		2024-09-18T04:23:56
WG1972898-2	45	Unknown	?	0.4625	1	1	1	5.0453		2024-09-18T04:24:58
WG1972899-1	46	Unknown	?	-0.0002	1	1	1	-0.0016		2024-09-18T04:25:39
WG1972899-2	47	Unknown	?	0.4646	1	1	1	5.0687		2024-09-18T04:27:11
WG1972901-1; WG1972902-1	48	Unknown	?	-0.0003	1	1	1	-0.0021		2024-09-18T04:27:50
WG1972901-2; WG1972902-2	49	Unknown	?	0.4664	1	1	1	5.0879		2024-09-18T04:29:22
WG1972903-1; WG1972907-1	50	Unknown	?	-0.0002	1	1	1	-0.0019		2024-09-18T04:29:59
WG1972903-2; WG1972907-2	51	Unknown	?	0.4609	1	1	1	5.0281		2024-09-18T04:31:31
WG1972904-1	52	Unknown	?	-0.0003	1	1	1	-0.0029		2024-09-18T04:32:08
WG1972904-2	53	Unknown	?	0.4672	1	1	1	5.0970		2024-09-18T04:33:40
CCV NO3	54	QC	1	0.0926	1	1	1	1.0109		2024-09-18T04:34:44
CCV NO2	55	QC	?	0.0947	1	1	1	1.0339		2024-09-18T04:35:50
CCB	56	QC	0	0.0000	1	1	1	0.0010		2024-09-18T04:36:40
WG1972905-1; WG1972906-1	57	Unknown	?	0.0001	1	1	1	0.0014		2024-09-18T04:38:17
WG1972905-2; WG1972906-2	58	Unknown	?	0.4625	1	1	1	5.0454		2024-09-18T04:39:20
L2453136-01	59	Unknown	?	0.0108	1	1	1	0.1184		2024-09-18T04:40:27

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
WG1972903-3	60	Unknown	?	0.0120	1	1	1	0.1313		2024-09-18T04:41:34
WG1972903-4	61	Unknown	?	0.3878	1	1	1	4.2312		2024-09-18T04:42:40
WG1972896-3	62	Unknown	?	0.0102	1	1	1	0.1117		2024-09-18T04:43:47
WG1972896-4	63	Unknown	?	0.4010	1	1	1	4.3751		2024-09-18T04:44:53
L2453136-02	64	Unknown	?	0.0080	1	1	1	0.0876		2024-09-18T04:45:59
L2453136-03	65	Unknown	?	0.0008	1	1	1	0.0089		2024-09-18T04:47:06
L2453136-04	66	Unknown	?	0.0371	1	1	1	0.4052		2024-09-18T04:48:10
CCV NO3	67	QC	1	0.0962	1	1	1	1.0503		2024-09-18T04:49:15
CCV NO2	68	QC	?	0.0952	1	1	1	1.0388		2024-09-18T04:50:21
CCB	69	QC	0	0.0000	1	1	1	0.0008		2024-09-18T04:51:10
L2453136-05	70	Unknown	?	0.0006	1	1	1	0.0073		2024-09-18T04:52:41
L2453136-06	71	Unknown	?	0.0027	1	1	1	0.0299		2024-09-18T04:53:49
L2453136-07	72	Unknown	?	0.0022	1	1	1	0.0252		2024-09-18T04:54:53
L2453383-01	73	Unknown	?	0.0130	1	1	1	0.1423		2024-09-18T04:55:57
L2453439-01	74	Unknown	?	0.0000	1	1	1	0.0011		2024-09-18T04:57:02
WG1972907-3	75	Unknown	?	0.0001	1	1	1	0.0015		2024-09-18T04:58:08
WG1972907-4	76	Unknown	?	0.3775	1	1	1	4.1180		2024-09-18T04:59:14
L2453439-02	77	Unknown	?	0.0004	1	1	1	0.0052		2024-09-18T05:00:20
L2453058-01	78	Unknown	?	0.0851	1	1	1	0.9290		2024-09-18T05:01:28
WG1972899-5	79	Unknown	?	0.0851	1	1	1	0.9292		2024-09-18T05:02:34
CCV NO3	80	QC	1	0.0959	1	1	1	1.0466		2024-09-18T05:03:40
CCV NO2	81	QC	?	0.0951	1	1	1	1.0381		2024-09-18T05:04:46
CCB	82	QC	0	0.0000	1	1	1	0.0006		2024-09-18T05:05:33
WG1972899-6	83	Unknown	?	0.4595	1	1	1	5.0132		2024-09-18T05:07:04
L2453058-02	84	Unknown	?	0.1292	1	1	1	1.4098		2024-09-18T05:08:12
L2453058-03	85	Unknown	?	0.1298	1	1	1	1.4164		2024-09-18T05:09:18
L2453072-01	86	Unknown	?	0.0136	1	1	1	0.1487		2024-09-18T05:10:25
L2453072-02	87	Unknown	?	0.0027	1	1	1	0.0301		2024-09-18T05:11:29
L2453072-05	88	Unknown	?	0.0417	1	1	1	0.4555		2024-09-18T05:12:35
L2453072-06	89	Unknown	?	0.0054	1	1	1	0.0599		2024-09-18T05:13:39
L2453072-07	90	Unknown	?	0.0035	1	1	1	0.0387		2024-09-18T05:14:45
L2453081-01	91	Unknown	?	0.0017	1	1	1	0.0187		2024-09-18T05:15:49
L2453081-02	92	Unknown	?	0.0027	1	1	1	0.0297		2024-09-18T05:16:53

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
CCV NO3	93	QC	1	0.0967	1	1	1	1.0553		2024-09-18T05:17:58
CCV NO2	94	QC	?	0.0962	1	1	1	1.0495		2024-09-18T05:19:03
CCB	95	QC	0	0.0000	1	1	1	0.0003		2024-09-18T05:19:52
L2453356-03	96	Unknown	?	1.3091	1	1	1	14.2800	OVR	2024-09-18T05:21:34
WG1972899-3	97	Unknown	?	1.2795	1	1	1	13.9570	OVR	2024-09-18T05:22:43
WG1972899-4	98	Unknown	?	1.2692	1	1	1	13.8451	OVR	2024-09-18T05:23:50
WG1972894-3	99	Unknown	?	1.2664	1	1	1	13.8145	OVR	2024-09-18T05:24:57
WG1972894-4	100	Unknown	?	1.2653	1	1	1	13.8024	OVR	2024-09-18T05:26:04
L2453356-04	101	Unknown	?	0.7628	1	1	1	8.3210	OVR	2024-09-18T05:26:58
L2453356-05	102	Unknown	?	1.2995	1	1	1	14.1748	OVR	2024-09-18T05:28:14
L2453356-06	103	Unknown	?	1.2694	1	1	1	13.8469	OVR	2024-09-18T05:29:22
L2453356-07	104	Unknown	?	1.2586	1	1	1	13.7290	OVR	2024-09-18T05:30:28
L2453356-08	105	Unknown	?	0.7030	1	1	1	7.6683		2024-09-18T05:31:21
CCV NO3	106	QC	1	0.0931	1	1	1	1.0157		2024-09-18T05:32:26
CCV NO2	107	QC	?	0.0963	1	1	1	1.0512		2024-09-18T05:33:32
CCB	108	QC	0	0.0002	1	1	1	0.0032		2024-09-18T05:34:42
L2453356-09	109	Unknown	?	0.6979	1	1	1	7.6128		2024-09-18T05:35:50
L2453290-01	110	Unknown	?	0.6326	1	1	1	6.9005		2024-09-18T05:36:57
WG1972898-3	111	Unknown	?	0.6347	1	1	1	6.9236		2024-09-18T05:38:01
WG1972898-4	112	Unknown	?	0.9418	1	1	1	10.2737	OVR	2024-09-18T05:39:06
WG1972893-3	113	Unknown	?	0.6311	1	1	1	6.8845		2024-09-18T05:40:11
WG1972893-4	114	Unknown	?	0.9412	1	1	1	10.2673	OVR	2024-09-18T05:41:17
L2453290-02	115	Unknown	?	0.5929	1	1	1	6.4677		2024-09-18T05:42:25
L2453290-03	116	Unknown	?	0.1305	1	1	1	1.4243		2024-09-18T05:43:31
L2453290-04	117	Unknown	?	0.1335	1	1	1	1.4565		2024-09-18T05:44:38
L2453293-01	118	Unknown	?	0.0853	1	1	1	0.9312		2024-09-18T05:45:45
CCV NO3	119	QC	1	0.0957	1	1	1	1.0449		2024-09-18T05:46:50
CCV NO2	120	QC	?	0.0954	1	1	1	1.0416		2024-09-18T05:47:56
CCB	121	QC	0	0.0001	1	1	1	0.0013		2024-09-18T05:49:10
WG1972898-5	122	Unknown	?	0.0861	1	1	1	0.9397		2024-09-18T05:50:17
WG1972898-6	123	Unknown	?	0.4798	1	1	1	5.2341		2024-09-18T05:51:23
WG1972893-5	124	Unknown	?	0.0838	1	1	1	0.9151		2024-09-18T05:52:29
WG1972893-6	125	Unknown	?	0.4584	1	1	1	5.0003		2024-09-18T05:53:34

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
L2453293-02	126	Unknown	?	0.1294	1	1	1	1.4121		2024-09-18T05:54:40
L2453293-03	127	Unknown	?	0.1287	1	1	1	1.4043		2024-09-18T05:55:46
L2453298-01	128	Unknown	?	0.0095	1	1	1	0.1039		2024-09-18T05:56:51
L2453298-02	129	Unknown	?	0.0992	1	1	1	1.0831		2024-09-18T05:57:56
L2453303-02	130	Unknown	?	0.2798	1	1	1	3.0530		2024-09-18T05:59:02
L2453306-01	131	Unknown	?	0.0012	1	1	1	0.0138		2024-09-18T06:00:07
CCV NO3	132	QC	1	0.0960	1	1	1	1.0482		2024-09-18T06:01:12
CCV NO2	133	QC	?	0.0958	1	1	1	1.0459		2024-09-18T06:02:17
CCB	134	QC	0	0.0000	1	1	1	0.0010		2024-09-18T06:03:27
L2453310-01	135	Unknown	?	0.6395	1	1	1	6.9757		2024-09-18T06:04:39
L2453312-01	136	Unknown	?	0.5242	1	1	1	5.7180		2024-09-18T06:05:46
L2453341-01	137	Unknown	?	1.3073	1	1	1	14.2600	OVR	2024-09-18T06:07:01
L2453344-01	138	Unknown	?	1.0235	1	1	1	11.1650	OVR	2024-09-18T06:08:00
L2453344-02	139	Unknown	?	0.9469	1	1	1	10.3297	OVR	2024-09-18T06:09:07
L2453348-01	140	Unknown	?	0.0366	1	1	1	0.3999		2024-09-18T06:10:13
L2453350-01	141	Unknown	?	0.7668	1	1	1	8.3644	OVR	2024-09-18T06:11:19
L2453350-02	142	Unknown	?	0.0332	1	1	1	0.3628		2024-09-18T06:12:25
L2453351-02	143	Unknown	?	0.0773	1	1	1	0.8433		2024-09-18T06:13:31
L2453116-01	144	Unknown	?	0.1367	1	1	1	1.4918		2024-09-18T06:14:36
CCV NO3	145	QC	1	0.0962	1	1	1	1.0501		2024-09-18T06:15:42
CCV NO2	146	QC	?	0.0961	1	1	1	1.0486		2024-09-18T06:16:47
CCB	147	QC	0	0.0000	1	1	1	0.0008		2024-09-18T06:17:55
WG1972897-3	148	Unknown	?	0.1381	1	1	1	1.5074		2024-09-18T06:19:06
WG1972897-4	149	Unknown	?	0.4944	1	1	1	5.3933		2024-09-18T06:20:14
WG1972890-3	150	Unknown	?	0.1353	1	1	1	1.4768		2024-09-18T06:21:20
WG1972890-4	151	Unknown	?	0.5203	1	1	1	5.6764		2024-09-18T06:22:25
L2453118-01	152	Unknown	?	0.1634	1	1	1	1.7831		2024-09-18T06:23:31
WG1972897-5	153	Unknown	?	0.1656	1	1	1	1.8073		2024-09-18T06:24:38
WG1972897-6	154	Unknown	?	0.5258	1	1	1	5.7355		2024-09-18T06:25:45
WG1972890-5	155	Unknown	?	0.1649	1	1	1	1.7994		2024-09-18T06:26:52
WG1972890-6	156	Unknown	?	0.5505	1	1	1	6.0057		2024-09-18T06:27:58
L2453261-01	157	Unknown	?	0.0240	1	1	1	0.2626		2024-09-18T06:29:05
CCV NO3	158	QC	1	0.0965	1	1	1	1.0532		2024-09-18T06:30:11

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
CCV NO2	159	QC	?	0.0949	1	1	1	1.0357		2024-09-18T06:31:16
CCB	160	QC	0	0.0000	1	1	1	0.0003		2024-09-18T06:32:03
L2453261-02	161	Unknown	?	0.0260	1	1	1	0.2842		2024-09-18T06:33:33
L2453274-01	162	Unknown	?	0.0837	1	1	1	0.9133		2024-09-18T06:34:40
L2453274-02	163	Unknown	?	0.0875	1	1	1	0.9552		2024-09-18T06:35:46
L2453274-03	164	Unknown	?	0.1889	1	1	1	2.0614		2024-09-18T06:36:52
L2453274-04	165	Unknown	?	0.1777	1	1	1	1.9394		2024-09-18T06:37:58
L2453274-05	166	Unknown	?	0.0906	1	1	1	0.9891		2024-09-18T06:39:04
L2453274-06	167	Unknown	?	0.2183	1	1	1	2.3816		2024-09-18T06:40:10
L2453274-07	168	Unknown	?	0.1019	1	1	1	1.1122		2024-09-18T06:41:15
L2453274-08	169	Unknown	?	0.1785	1	1	1	1.9481		2024-09-18T06:42:21
L2453279-01	170	Unknown	?	0.0438	1	1	1	0.4786		2024-09-18T06:43:28
CCV NO3	171	QC	1	0.0965	1	1	1	1.0537		2024-09-18T06:44:33
CCV NO2	172	QC	?	0.0952	1	1	1	1.0386		2024-09-18T06:45:39
CCB	173	QC	0	0.0000	1	1	1	0.0008		2024-09-18T06:46:49
L2453279-02	174	Unknown	?	0.0545	1	1	1	0.5954		2024-09-18T06:48:00
L2453279-03	175	Unknown	?	0.1029	1	1	1	1.1236		2024-09-18T06:49:09
L2453279-04	176	Unknown	?	0.1052	1	1	1	1.1479		2024-09-18T06:50:16
L2453285-01	177	Unknown	?	0.5733	1	1	1	6.2536		2024-09-18T06:51:23
L2453285-02	178	Unknown	?	0.9015	1	1	1	9.8335	OVR	2024-09-18T06:52:30
L2453285-03	179	Unknown	?	0.0006	1	1	1	0.0078		2024-09-18T06:53:36
L2453285-04	180	Unknown	?	0.0064	1	1	1	0.0707		2024-09-18T06:54:42
L2453397-01	181	Unknown	?	0.0001	1	1	1	0.0014		2024-09-18T06:55:53
WG1972906-3	182	Unknown	?	0.0001	1	1	1	0.0017		2024-09-18T06:56:59
WG1972906-4	183	Unknown	?	0.3925	1	1	1	4.2822		2024-09-18T06:58:00
CCV NO3	184	QC	1	0.0948	1	1	1	1.0346		2024-09-18T06:59:06
CCV NO2	185	QC	?	0.0956	1	1	1	1.0438		2024-09-18T07:00:12
CCB	186	QC	0	0.0000	1	1	1	0.0006		2024-09-18T07:01:21
WG1972908-3	187	Unknown	?	0.0001	1	1	1	0.0013		2024-09-18T07:02:34
WG1972908-4	188	Unknown	?	0.3958	1	1	1	4.3180		2024-09-18T07:03:41
L2453250-01	189	Unknown	?	0.0153	1	1	1	0.1679		2024-09-18T07:04:47
WG1972901-3; WG1972902-3	190	Unknown	?	0.0171	1	1	1	0.1869		2024-09-18T07:05:53

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
WG1972901-4; WG1972902-4	191	Unknown	?	0.3942	1	1	1	4.3009		2024-09-18T07:06:59
L2453297-01	192	Unknown	?	-0.0002	1	1	1	-0.0010		2024-09-18T07:07:41
L2453297-02	193	Unknown	?	0.0007	1	1	1	0.0081		2024-09-18T07:09:13
L2453297-03	194	Unknown	?	0.0028	1	1	1	0.0309		2024-09-18T07:10:22
L2453297-04	195	Unknown	?	0.0006	1	1	1	0.0077		2024-09-18T07:11:27
L2453297-05	196	Unknown	?	0.0015	1	1	1	0.0168		2024-09-18T07:12:35
CCV NO3	197	QC	1	0.0963	1	1	1	1.0512		2024-09-18T07:13:39
CCV NO2	198	QC	?	0.0957	1	1	1	1.0449		2024-09-18T07:14:44
CCB	199	QC	0	0.0000	1	1	1	0.0007		2024-09-18T07:15:55
L2453297-06	200	Unknown	?	0.0011	1	1	1	0.0122		2024-09-18T07:17:03
L2453331-01	201	Unknown	?	1.0618	1	1	1	11.5829	OVR	2024-09-18T07:18:13
L2453331-02	202	Unknown	?	0.0231	1	1	1	0.2532		2024-09-18T07:19:19
L2453372-01	203	Unknown	?	0.0027	1	1	1	0.0301		2024-09-18T07:20:27
L2453372-02	204	Unknown	?	0.0014	1	1	1	0.0156		2024-09-18T07:21:32
L2453372-03	205	Unknown	?	0.0006	1	1	1	0.0077		2024-09-18T07:22:40
L2453372-05	206	Unknown	?	0.0019	1	1	1	0.0215		2024-09-18T07:23:45
L2453372-06	207	Unknown	?	0.0011	1	1	1	0.0129		2024-09-18T07:24:53
L2453372-08	208	Unknown	?	0.0019	1	1	1	0.0219		2024-09-18T07:25:59
WG1972904-3	209	Unknown	?	0.0019	1	1	1	0.0211		2024-09-18T07:27:05
CCV NO3	210	QC	1	0.0946	1	1	1	1.0330		2024-09-18T07:28:09
CCV NO2	211	QC	?	0.0953	1	1	1	1.0400		2024-09-18T07:29:15
CCB	212	QC	0	0.0000	1	1	1	0.0006		2024-09-18T07:30:23
WG1972904-4	213	Unknown	?	0.3141	1	1	1	3.4267		2024-09-18T07:31:34
L2453372-10	214	Unknown	?	0.0020	1	1	1	0.0220		2024-09-18T07:32:43
L2453372-11	215	Unknown	?	0.0022	1	1	1	0.0248		2024-09-18T07:33:49
L2453372-12	216	Unknown	?	0.0020	1	1	1	0.0226		2024-09-18T07:35:09
L2453372-14	217	Unknown	?	0.0024	1	1	1	0.0272		2024-09-18T07:36:04
L2453433-01	218	Unknown	?	0.0036	1	1	1	0.0404		2024-09-18T07:37:09
L2453433-02	219	Unknown	?	0.0231	1	1	1	0.2532		2024-09-18T07:38:15
L2453276-01	220	Unknown	?	0.2152	1	1	1	2.3475		2024-09-18T07:39:21
WG1972905-3	221	Unknown	?	0.2146	1	1	1	2.3412		2024-09-18T07:40:28
WG1972905-4	222	Unknown	?	0.5524	1	1	1	6.0260		2024-09-18T07:41:35

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
CCV NO3	223	QC	1	0.0930	1	1	1	1.0150		2024-09-18T07:42:40
CCV NO2	224	QC	?	0.0947	1	1	1	1.0333		2024-09-18T07:43:46
CCB	225	QC	0	0.0000	1	1	1	0.0006		2024-09-18T07:44:33
L2453277-01	226	Unknown	?	1.0467	1	1	1	11.4178	OVR	2024-09-18T07:46:04
L2453290-02	227	Unknown	?	0.5992	1	1	1	6.5368		2024-09-18T07:47:13
L2453344-01	228	Unknown	?	1.0355	1	1	1	11.2952	OVR	2024-09-18T07:48:20
L2453348-01	229	Unknown	?	0.0357	1	1	1	0.3900		2024-09-18T07:49:26
L2453350-02	230	Unknown	?	0.0367	1	1	1	0.4011		2024-09-18T07:50:32
L2453285-03	231	Unknown	?	0.0044	1	1	1	0.0490		2024-09-18T07:51:38
L2453356-03; 1 UP TO 10	232	Unknown	?	0.6444	10	1	1	70.2927		2024-09-18T07:52:46
WG1972899-3; 1 UP TO 10	233	Unknown	?	0.6427	10	1	1	70.1087		2024-09-18T07:53:54
WG1972899-4; 1 UP TO 10	234	Unknown	?	0.6584	10	1	1	71.8186		2024-09-18T07:55:04
L2453356-04; 2 UP TO 10	235	Unknown	?	0.1689	5	1	1	9.2137		2024-09-18T07:56:12
CCV NO3	236	QC	1	0.0942	1	1	1	1.0278		2024-09-18T07:57:19
CCV NO2	237	QC	?	0.0945	1	1	1	1.0315		2024-09-18T07:58:24
CCB	238	QC	0	0.0001	1	1	1	0.0017		2024-09-18T07:59:35
L2453356-05; 1 UP TO 10	239	Unknown	?	0.5372	10	1	1	58.5988		2024-09-18T08:00:47
L2453356-06; 1 UP TO 10	240	Unknown	?	0.6525	10	1	1	71.1809		2024-09-18T08:01:58
L2453356-07; 1 UP TO 10	241	Unknown	?	0.6811	10	1	1	74.2941		2024-09-18T08:03:07
L2453356-08; 2 UP TO 10	242	Unknown	?	0.1560	5	1	1	8.5089		2024-09-18T08:04:16
WG1972898-4; 2 UP TO 10	243	Unknown	?	0.2106	5	1	1	11.4919		2024-09-18T08:05:25
L2453341-01; 1 UP TO 10	244	Unknown	?	0.3792	10	1	1	41.3729		2024-09-18T08:06:33
L2453344-01; 2 UP TO 10	245	Unknown	?	0.2424	5	1	1	13.2251		2024-09-18T08:07:42
L2453344-02; 2 UP TO 10	246	Unknown	?	0.2124	5	1	1	11.5879		2024-09-18T08:08:51
L2453350-01; 2 UP TO 10	247	Unknown	?	0.1611	5	1	1	8.7893		2024-09-18T08:10:00
L2453331-02	248	Unknown	?	0.0269	1	1	1	0.2940		2024-09-18T08:11:07
CCV NO3	249	QC	1	0.0952	1	1	1	1.0391		2024-09-18T08:12:13
CCV NO2	250	QC	?	0.0952	1	1	1	1.0393		2024-09-18T08:13:18

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
CCB	251	QC	0	0.0001	1	1	1	0.0015		2024-09-18T08:14:32
L2453285-02; 2 UP TO 10	252	Unknown	?	0.1980	5	1	1	10.8018		2024-09-18T08:15:41
L2453331-01; 2 UP TO 10	253	Unknown	?	0.2479	5	1	1	13.5223		2024-09-18T08:16:53
L2453290-02	254	Unknown	?	0.5947	1	1	1	6.4870		2024-09-18T08:18:00
L2453348-01	255	Unknown	?	0.0383	1	1	1	0.4188		2024-09-18T08:19:07
L2453277-01; 2 UP TO 10	256	Unknown	?	0.2419	5	1	1	13.1940		2024-09-18T08:20:15
L2453270-01	257	Unknown	?	0.0009	1	1	1	0.0108		2024-09-18T08:21:23
L2453275-01	258	Unknown	?	0.0017	1	1	1	0.0196		2024-09-18T08:22:29
L2453296-01	259	Unknown	?	0.0054	1	1	1	0.0594		2024-09-18T08:23:36
L2453081-03	260	Unknown	?	0.0133	1	1	1	0.1459		2024-09-18T08:24:43
L2453081-04	261	Unknown	?	0.0166	1	1	1	0.1821		2024-09-18T08:25:50
CCV NO3	262	QC	1	0.0948	1	1	1	1.0344		2024-09-18T08:26:55
CCV NO2	263	QC	?	0.0942	1	1	1	1.0282		2024-09-18T08:28:01
CCB	264	QC	0	0.0001	1	1	1	0.0012		2024-09-18T08:29:10
L2453081-05	265	Unknown	?	0.0141	1	1	1	0.1540		2024-09-18T08:30:23
L2453072-01	266	Unknown	?	0.0231	1	1	1	0.2532		2024-09-18T08:31:32
CCV NO3	267	QC	1	0.0959	1	1	1	1.0464		2024-09-18T08:32:37
CCV NO2	268	QC	?	0.0949	1	1	1	1.0355		2024-09-18T08:33:42
CCB	269	QC	0	0.0000	1	1	1	0.0006		2024-09-18T08:34:28

Channel: 2-NO2

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
Stabil	1	Unknown	?	0.0000	1	1	1	-0.0024		2024-09-18T03:34:49
NOx 8.0ppm	2	Standard	?	0.0001	1	1	1	-0.0022		2024-09-18T03:36:06
NOx 4.0ppm	3	Standard	?	0.0001	1	1	1	-0.0022		2024-09-18T03:37:22
NOx 1.0ppm	4	Standard	?	0.0001	1	1	1	-0.0021		2024-09-18T03:38:22
NOx 0.4ppm	5	Standard	?	0.0000	1	1	1	-0.0025		2024-09-18T03:39:56
NOx 0.2ppm	6	Standard	?	0.0000	1	1	1	-0.0024		2024-09-18T03:41:32
NOx 0.1ppm	7	Standard	?	0.0000	1	1	1	-0.0024		2024-09-18T03:41:56
NOx 0.0ppm	8	Standard	?	0.0001	1	1	1	-0.0021		2024-09-18T03:43:04
Nitrite 8.0ppm	9	Standard	8	0.9805	1	1	1	7.4282		2024-09-18T03:44:12
Nitrite 4.0ppm	10	Standard	4	0.5392	1	1	1	4.0837		2024-09-18T03:45:22

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
Nitrite 1.0ppm	11	Standard	1	0.1364	1	1	1	1.0311		2024-09-18T03:46:28
Nitrite 0.4ppm	12	Standard	0.4	0.0552	1	1	1	0.4157		2024-09-18T03:47:38
Nitrite 0.1ppm	13	Standard	0.1	0.0137	1	1	1	0.1007		2024-09-18T03:48:48
Nitrite 0.05ppm	14	Standard	0.05	0.0069	1	1	1	0.0495		2024-09-18T03:49:58
Nitrite 0.0ppm	15	Standard	0	0.0001	1	1	1	-0.0019		2024-09-18T03:51:11
CCV NO3	16	QC	?	0.0001	1	1	1	-0.0019		2024-09-18T03:52:18
CCV NO2	17	QC	1	0.1368	1	1	1	1.0338		2024-09-18T03:53:21
CCB	18	QC	0	0.0001	1	1	1	-0.0020		2024-09-18T03:54:32
ICV NO3 5.0	19	QC	?	0.0002	1	1	1	-0.0015		2024-09-18T03:55:42
ICV NO2 5.0	20	QC	5	0.6541	1	1	1	4.9549		2024-09-18T03:56:49
ICV NO3 0.5	21	QC	?	0.0001	1	1	1	-0.0017		2024-09-18T03:57:57
ICV NO2 0.5	22	QC	0.5	0.0678	1	1	1	0.5108		2024-09-18T03:59:04
ICB	23	QC	0	0.0001	1	1	1	-0.0021		2024-09-18T04:00:23
BLANK NO3	24	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T04:01:31
LCS NO3	25	Unknown	?	0.0001	1	1	1	-0.0019		2024-09-18T04:02:30
BLANK NO2	26	Unknown	?	0.0000	1	1	1	-0.0026		2024-09-18T04:03:37
LCS NO2	27	Unknown	?	0.6484	1	1	1	4.9118		2024-09-18T04:04:42
CCV NO3	28	QC	?	0.0001	1	1	1	-0.0018		2024-09-18T04:05:48
CCV NO2	29	QC	1	0.1359	1	1	1	1.0269		2024-09-18T04:06:53
CCB	30	QC	0	0.0001	1	1	1	-0.0019		2024-09-18T04:08:08
WG1972890-1	31	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T04:09:18
WG1972890-2	32	Unknown	?	0.6516	1	1	1	4.9360		2024-09-18T04:10:20
WG1972893-1	33	Unknown	?	0.0000	1	1	1	-0.0026		2024-09-18T04:11:26
WG1972893-2	34	Unknown	?	0.6529	1	1	1	4.9452		2024-09-18T04:12:31
WG1972894-1	35	Unknown	?	0.0001	1	1	1	-0.0021		2024-09-18T04:13:37
WG1972894-2	36	Unknown	?	0.6528	1	1	1	4.9446		2024-09-18T04:14:43
WG1972896-1; WG1972908-1	37	Unknown	?	0.0001	1	1	1	-0.0018		2024-09-18T04:15:51
WG1972896-2; WG1972908-2	38	Unknown	?	0.6512	1	1	1	4.9330		2024-09-18T04:16:58
WG1972897-1	39	Unknown	?	0.0001	1	1	1	-0.0021		2024-09-18T04:18:05
WG1972897-2	40	Unknown	?	0.0001	1	1	1	-0.0020		2024-09-18T04:19:17
CCV NO3	41	QC	?	0.0001	1	1	1	-0.0018		2024-09-18T04:20:20

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
CCV NO2	42	QC	1	0.1371	1	1	1	1.0360		2024-09-18T04:21:22
CCB	43	QC	0	0.0001	1	1	1	-0.0020		2024-09-18T04:22:36
WG1972898-1	44	Unknown	?	0.0001	1	1	1	-0.0022		2024-09-18T04:23:48
WG1972898-2	45	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T04:24:52
WG1972899-1	46	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T04:26:08
WG1972899-2	47	Unknown	?	0.0000	1	1	1	-0.0024		2024-09-18T04:27:13
WG1972901-1; WG1972902-1	48	Unknown	?	0.0000	1	1	1	-0.0024		2024-09-18T04:28:15
WG1972901-2; WG1972902-2	49	Unknown	?	0.0001	1	1	1	-0.0022		2024-09-18T04:29:23
WG1972903-1; WG1972907-1	50	Unknown	?	0.0000	1	1	1	-0.0026		2024-09-18T04:30:18
WG1972903-2; WG1972907-2	51	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T04:31:32
WG1972904-1	52	Unknown	?	0.0000	1	1	1	-0.0025		2024-09-18T04:32:38
WG1972904-2	53	Unknown	?	0.0000	1	1	1	-0.0024		2024-09-18T04:33:37
CCV NO3	54	QC	?	0.0001	1	1	1	-0.0018		2024-09-18T04:34:31
CCV NO2	55	QC	1	0.1379	1	1	1	1.0422		2024-09-18T04:35:38
CCB	56	QC	0	0.0001	1	1	1	-0.0018		2024-09-18T04:36:51
WG1972905-1; WG1972906-1	57	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T04:38:05
WG1972905-2; WG1972906-2	58	Unknown	?	0.0000	1	1	1	-0.0024		2024-09-18T04:39:30
L2453136-01	59	Unknown	?	0.0010	1	1	1	0.0047		2024-09-18T04:40:15
WG1972903-3	60	Unknown	?	0.0002	1	1	1	-0.0013		2024-09-18T04:41:20
WG1972903-4	61	Unknown	?	0.0002	1	1	1	-0.0009		2024-09-18T04:42:28
WG1972896-3	62	Unknown	?	0.0002	1	1	1	-0.0015		2024-09-18T04:43:34
WG1972896-4	63	Unknown	?	0.5397	1	1	1	4.0873		2024-09-18T04:44:40
L2453136-02	64	Unknown	?	0.0009	1	1	1	0.0044		2024-09-18T04:45:46
L2453136-03	65	Unknown	?	0.0009	1	1	1	0.0038		2024-09-18T04:46:52
L2453136-04	66	Unknown	?	0.0014	1	1	1	0.0078		2024-09-18T04:47:57
CCV NO3	67	QC	?	0.0001	1	1	1	-0.0021		2024-09-18T04:49:01
CCV NO2	68	QC	1	0.1356	1	1	1	1.0250		2024-09-18T04:50:09
CCB	69	QC	0	0.0001	1	1	1	-0.0018		2024-09-18T04:51:22

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
L2453136-05	70	Unknown	?	0.0008	1	1	1	0.0031		2024-09-18T04:52:28
L2453136-06	71	Unknown	?	0.0008	1	1	1	0.0036		2024-09-18T04:53:34
L2453136-07	72	Unknown	?	0.0008	1	1	1	0.0037		2024-09-18T04:54:39
L2453383-01	73	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T04:55:39
L2453439-01	74	Unknown	?	0.0001	1	1	1	-0.0021		2024-09-18T04:56:47
WG1972907-3	75	Unknown	?	0.0000	1	1	1	-0.0024		2024-09-18T04:58:00
WG1972907-4	76	Unknown	?	0.0027	1	1	1	0.0178		2024-09-18T04:59:02
L2453439-02	77	Unknown	?	0.0013	1	1	1	0.0075		2024-09-18T05:00:09
L2453058-01	78	Unknown	?	0.0000	1	1	1	-0.0025		2024-09-18T05:01:21
WG1972899-5	79	Unknown	?	0.0000	1	1	1	-0.0025		2024-09-18T05:02:20
CCV NO3	80	QC	?	0.0001	1	1	1	-0.0021		2024-09-18T05:03:27
CCV NO2	81	QC	1	0.1369	1	1	1	1.0346		2024-09-18T05:04:33
CCB	82	QC	0	0.0001	1	1	1	-0.0021		2024-09-18T05:05:44
WG1972899-6	83	Unknown	?	0.0002	1	1	1	-0.0016		2024-09-18T05:06:53
L2453058-02	84	Unknown	?	0.0008	1	1	1	0.0031		2024-09-18T05:08:00
L2453058-03	85	Unknown	?	0.0008	1	1	1	0.0035		2024-09-18T05:09:05
L2453072-01	86	Unknown	?	0.0090	1	1	1	0.0658		2024-09-18T05:10:11
L2453072-02	87	Unknown	?	0.0011	1	1	1	0.0055		2024-09-18T05:11:16
L2453072-05	88	Unknown	?	0.0031	1	1	1	0.0207		2024-09-18T05:12:21
L2453072-06	89	Unknown	?	0.0014	1	1	1	0.0077		2024-09-18T05:13:26
L2453072-07	90	Unknown	?	0.0007	1	1	1	0.0027		2024-09-18T05:14:31
L2453081-01	91	Unknown	?	0.0013	1	1	1	0.0069		2024-09-18T05:15:36
L2453081-02	92	Unknown	?	0.0009	1	1	1	0.0037		2024-09-18T05:16:40
CCV NO3	93	QC	?	0.0001	1	1	1	-0.0020		2024-09-18T05:17:45
CCV NO2	94	QC	1	0.1375	1	1	1	1.0391		2024-09-18T05:18:51
CCB	95	QC	0	0.0001	1	1	1	-0.0017		2024-09-18T05:20:02
L2453356-03	96	Unknown	?	0.0313	1	1	1	0.2343		2024-09-18T05:21:11
WG1972899-3	97	Unknown	?	0.0303	1	1	1	0.2272		2024-09-18T05:22:20
WG1972899-4	98	Unknown	?	0.0297	1	1	1	0.2224		2024-09-18T05:23:26
WG1972894-3	99	Unknown	?	0.0305	1	1	1	0.2281		2024-09-18T05:24:33
WG1972894-4	100	Unknown	?	0.5819	1	1	1	4.4074		2024-09-18T05:25:39
L2453356-04	101	Unknown	?	0.0029	1	1	1	0.0190		2024-09-18T05:26:45
L2453356-05	102	Unknown	?	0.0035	1	1	1	0.0236		2024-09-18T05:27:52

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
L2453356-06	103	Unknown	?	0.0310	1	1	1	0.2321		2024-09-18T05:28:57
L2453356-07	104	Unknown	?	0.0104	1	1	1	0.0761		2024-09-18T05:30:02
L2453356-08	105	Unknown	?	0.0009	1	1	1	0.0041		2024-09-18T05:31:07
CCV NO3	106	QC	?	0.0001	1	1	1	-0.0020		2024-09-18T05:32:12
CCV NO2	107	QC	1	0.1371	1	1	1	1.0361		2024-09-18T05:33:19
CCB	108	QC	0	0.0001	1	1	1	-0.0021		2024-09-18T05:34:32
L2453356-09	109	Unknown	?	0.0012	1	1	1	0.0060		2024-09-18T05:35:36
L2453290-01	110	Unknown	?	0.0001	1	1	1	-0.0019		2024-09-18T05:36:44
WG1972898-3	111	Unknown	?	0.0001	1	1	1	-0.0019		2024-09-18T05:37:50
WG1972898-4	112	Unknown	?	0.0029	1	1	1	0.0193		2024-09-18T05:38:53
WG1972893-3	113	Unknown	?	0.0001	1	1	1	-0.0019		2024-09-18T05:39:59
WG1972893-4	114	Unknown	?	0.5528	1	1	1	4.1871		2024-09-18T05:41:05
L2453290-02	115	Unknown	?	0.0011	1	1	1	0.0058		2024-09-18T05:42:13
L2453290-03	116	Unknown	?	0.0007	1	1	1	0.0028		2024-09-18T05:43:20
L2453290-04	117	Unknown	?	0.0008	1	1	1	0.0033		2024-09-18T05:44:26
L2453293-01	118	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T05:45:33
CCV NO3	119	QC	?	0.0001	1	1	1	-0.0019		2024-09-18T05:46:38
CCV NO2	120	QC	1	0.1333	1	1	1	1.0074		2024-09-18T05:47:44
CCB	121	QC	0	0.0001	1	1	1	-0.0018		2024-09-18T05:48:57
WG1972898-5	122	Unknown	?	0.0001	1	1	1	-0.0022		2024-09-18T05:50:11
WG1972898-6	123	Unknown	?	0.0034	1	1	1	0.0228		2024-09-18T05:51:10
WG1972893-5	124	Unknown	?	0.0000	1	1	1	-0.0025		2024-09-18T05:52:15
WG1972893-6	125	Unknown	?	0.5234	1	1	1	3.9639		2024-09-18T05:53:22
L2453293-02	126	Unknown	?	0.0009	1	1	1	0.0041		2024-09-18T05:54:28
L2453293-03	127	Unknown	?	0.0007	1	1	1	0.0028		2024-09-18T05:55:32
L2453298-01	128	Unknown	?	0.0008	1	1	1	0.0031		2024-09-18T05:56:38
L2453298-02	129	Unknown	?	0.0007	1	1	1	0.0027		2024-09-18T05:57:43
L2453303-02	130	Unknown	?	0.0620	1	1	1	0.4672		2024-09-18T05:58:49
L2453306-01	131	Unknown	?	0.0029	1	1	1	0.0195		2024-09-18T05:59:54
CCV NO3	132	QC	?	0.0001	1	1	1	-0.0019		2024-09-18T06:00:59
CCV NO2	133	QC	1	0.1344	1	1	1	1.0162		2024-09-18T06:02:05
CCB	134	QC	0	0.0002	1	1	1	-0.0016		2024-09-18T06:03:18
L2453310-01	135	Unknown	?	0.0042	1	1	1	0.0291		2024-09-18T06:04:27

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
L2453312-01	136	Unknown	?	0.0103	1	1	1	0.0756		2024-09-18T06:05:34
L2453341-01	137	Unknown	?	1.3982	1	1	1	10.5940	OVR	2024-09-18T06:06:47
L2453344-01	138	Unknown	?	0.0773	1	1	1	0.5828		2024-09-18T06:07:48
L2453344-02	139	Unknown	?	0.0598	1	1	1	0.4505		2024-09-18T06:08:54
L2453348-01	140	Unknown	?	0.0066	1	1	1	0.0471		2024-09-18T06:10:00
L2453350-01	141	Unknown	?	0.0667	1	1	1	0.5029		2024-09-18T06:11:06
L2453350-02	142	Unknown	?	0.0189	1	1	1	0.1403		2024-09-18T06:12:12
L2453351-02	143	Unknown	?	0.0177	1	1	1	0.1312		2024-09-18T06:13:18
L2453116-01	144	Unknown	?	0.0047	1	1	1	0.0328		2024-09-18T06:14:23
CCV NO3	145	QC	?	0.0001	1	1	1	-0.0021		2024-09-18T06:15:28
CCV NO2	146	QC	1	0.1371	1	1	1	1.0364		2024-09-18T06:16:35
CCB	147	QC	0	0.0001	1	1	1	-0.0017		2024-09-18T06:17:48
WG1972897-3	148	Unknown	?	0.0046	1	1	1	0.0322		2024-09-18T06:18:53
WG1972897-4	149	Unknown	?	0.0067	1	1	1	0.0484		2024-09-18T06:20:02
WG1972890-3	150	Unknown	?	0.0046	1	1	1	0.0322		2024-09-18T06:21:07
WG1972890-4	151	Unknown	?	0.5546	1	1	1	4.2006		2024-09-18T06:22:13
L2453118-01	152	Unknown	?	0.0122	1	1	1	0.0894		2024-09-18T06:23:19
WG1972897-5	153	Unknown	?	0.0121	1	1	1	0.0889		2024-09-18T06:24:26
WG1972897-6	154	Unknown	?	0.0154	1	1	1	0.1138		2024-09-18T06:25:33
WG1972890-5	155	Unknown	?	0.0122	1	1	1	0.0895		2024-09-18T06:26:40
WG1972890-6	156	Unknown	?	0.5679	1	1	1	4.3011		2024-09-18T06:27:47
L2453261-01	157	Unknown	?	0.0034	1	1	1	0.0231		2024-09-18T06:28:53
CCV NO3	158	QC	?	0.0002	1	1	1	-0.0015		2024-09-18T06:29:58
CCV NO2	159	QC	1	0.1376	1	1	1	1.0399		2024-09-18T06:31:04
CCB	160	QC	0	0.0001	1	1	1	-0.0018		2024-09-18T06:32:16
L2453261-02	161	Unknown	?	0.0031	1	1	1	0.0206		2024-09-18T06:33:21
L2453274-01	162	Unknown	?	0.0008	1	1	1	0.0034		2024-09-18T06:34:29
L2453274-02	163	Unknown	?	0.0008	1	1	1	0.0033		2024-09-18T06:35:34
L2453274-03	164	Unknown	?	0.0007	1	1	1	0.0028		2024-09-18T06:36:40
L2453274-04	165	Unknown	?	0.0008	1	1	1	0.0033		2024-09-18T06:37:45
L2453274-05	166	Unknown	?	0.0021	1	1	1	0.0131		2024-09-18T06:38:51
L2453274-06	167	Unknown	?	0.0008	1	1	1	0.0031		2024-09-18T06:39:57
L2453274-07	168	Unknown	?	0.0016	1	1	1	0.0097		2024-09-18T06:41:03

Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
L2453274-08	169	Unknown	?	0.0008	1	1	1	0.0032		2024-09-18T06:42:10
L2453279-01	170	Unknown	?	0.0007	1	1	1	0.0027		2024-09-18T06:43:15
CCV NO3	171	QC	?	0.0001	1	1	1	-0.0018		2024-09-18T06:44:22
CCV NO2	172	QC	1	0.1351	1	1	1	1.0214		2024-09-18T06:45:27
CCB	173	QC	0	0.0001	1	1	1	-0.0018		2024-09-18T06:46:40
L2453279-02	174	Unknown	?	0.0008	1	1	1	0.0031		2024-09-18T06:47:48
L2453279-03	175	Unknown	?	0.0008	1	1	1	0.0031		2024-09-18T06:48:56
L2453279-04	176	Unknown	?	0.0008	1	1	1	0.0030		2024-09-18T06:50:04
L2453285-01	177	Unknown	?	0.0009	1	1	1	0.0044		2024-09-18T06:51:10
L2453285-02	178	Unknown	?	0.0009	1	1	1	0.0041		2024-09-18T06:52:16
L2453285-03	179	Unknown	?	0.0009	1	1	1	0.0039		2024-09-18T06:53:24
L2453285-04	180	Unknown	?	0.0008	1	1	1	0.0035		2024-09-18T06:54:30
L2453397-01	181	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T06:55:45
WG1972906-3	182	Unknown	?	0.0000	1	1	1	-0.0026		2024-09-18T06:56:51
WG1972906-4	183	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T06:57:49
CCV NO3	184	QC	?	0.0001	1	1	1	-0.0019		2024-09-18T06:58:52
CCV NO2	185	QC	1	0.1345	1	1	1	1.0163		2024-09-18T07:00:00
CCB	186	QC	0	0.0001	1	1	1	-0.0018		2024-09-18T07:01:10
WG1972908-3	187	Unknown	?	0.0000	1	1	1	-0.0024		2024-09-18T07:02:26
WG1972908-4	188	Unknown	?	0.5574	1	1	1	4.2215		2024-09-18T07:03:28
L2453250-01	189	Unknown	?	0.0104	1	1	1	0.0758		2024-09-18T07:04:35
WG1972901-3; WG1972902-3	190	Unknown	?	0.0103	1	1	1	0.0757		2024-09-18T07:05:41
WG1972901-4; WG1972902-4	191	Unknown	?	0.0125	1	1	1	0.0919		2024-09-18T07:06:47
L2453297-01	192	Unknown	?	0.0008	1	1	1	0.0034		2024-09-18T07:07:53
L2453297-02	193	Unknown	?	0.0007	1	1	1	0.0029		2024-09-18T07:09:00
L2453297-03	194	Unknown	?	0.0010	1	1	1	0.0051		2024-09-18T07:10:08
L2453297-04	195	Unknown	?	0.0008	1	1	1	0.0031		2024-09-18T07:11:15
L2453297-05	196	Unknown	?	0.0016	1	1	1	0.0092		2024-09-18T07:12:22
CCV NO3	197	QC	?	0.0001	1	1	1	-0.0019		2024-09-18T07:13:26
CCV NO2	198	QC	1	0.1381	1	1	1	1.0440		2024-09-18T07:14:33
CCB	199	QC	0	0.0001	1	1	1	-0.0017		2024-09-18T07:15:45

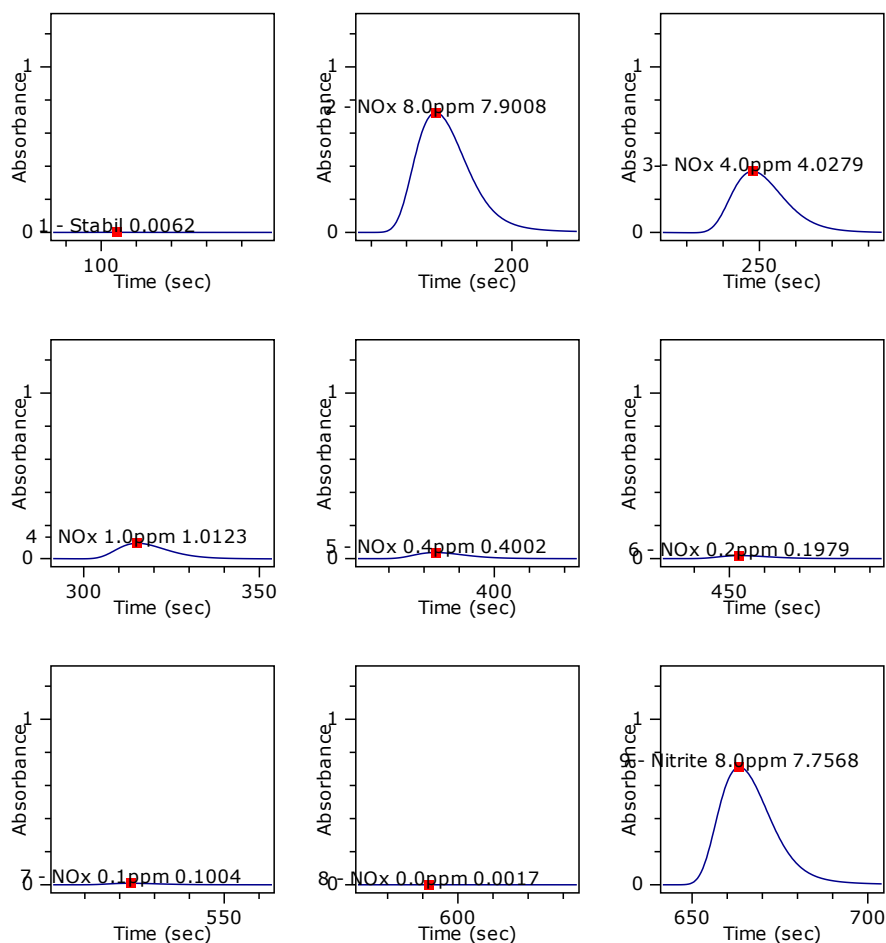
Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
L2453297-06	200	Unknown	?	0.0012	1	1	1	0.0061		2024-09-18T07:16:52
L2453331-01	201	Unknown	?	0.0009	1	1	1	0.0037		2024-09-18T07:18:00
L2453331-02	202	Unknown	?	0.0007	1	1	1	0.0025		2024-09-18T07:19:07
L2453372-01	203	Unknown	?	0.0010	1	1	1	0.0049		2024-09-18T07:20:12
L2453372-02	204	Unknown	?	0.0008	1	1	1	0.0036		2024-09-18T07:21:20
L2453372-03	205	Unknown	?	0.0008	1	1	1	0.0035		2024-09-18T07:22:26
L2453372-05	206	Unknown	?	0.0009	1	1	1	0.0044		2024-09-18T07:23:32
L2453372-06	207	Unknown	?	0.0007	1	1	1	0.0028		2024-09-18T07:24:39
L2453372-08	208	Unknown	?	0.0003	1	1	1	-0.0006		2024-09-18T07:25:44
WG1972904-3	209	Unknown	?	0.0003	1	1	1	-0.0005		2024-09-18T07:26:50
CCV NO3	210	QC	?	0.0001	1	1	1	-0.0019		2024-09-18T07:27:55
CCV NO2	211	QC	1	0.1385	1	1	1	1.0468		2024-09-18T07:29:03
CCB	212	QC	0	0.0001	1	1	1	-0.0017		2024-09-18T07:30:14
WG1972904-4	213	Unknown	?	0.0004	1	1	1	0.0006		2024-09-18T07:31:21
L2453372-10	214	Unknown	?	0.0012	1	1	1	0.0062		2024-09-18T07:32:29
L2453372-11	215	Unknown	?	0.0007	1	1	1	0.0025		2024-09-18T07:33:36
L2453372-12	216	Unknown	?	0.0080	1	1	1	0.0579		2024-09-18T07:34:44
L2453372-14	217	Unknown	?	0.0009	1	1	1	0.0038		2024-09-18T07:35:50
L2453433-01	218	Unknown	?	0.0019	1	1	1	0.0117		2024-09-18T07:36:56
L2453433-02	219	Unknown	?	0.0066	1	1	1	0.0474		2024-09-18T07:38:03
L2453276-01	220	Unknown	?	0.0007	1	1	1	0.0027		2024-09-18T07:39:09
WG1972905-3	221	Unknown	?	0.0001	1	1	1	-0.0023		2024-09-18T07:40:32
WG1972905-4	222	Unknown	?	0.0001	1	1	1	-0.0020		2024-09-18T07:41:23
CCV NO3	223	QC	?	0.0001	1	1	1	-0.0018		2024-09-18T07:42:26
CCV NO2	224	QC	1	0.1390	1	1	1	1.0511		2024-09-18T07:43:34
CCB	225	QC	0	0.0001	1	1	1	-0.0017		2024-09-18T07:44:46
L2453277-01	226	Unknown	?	0.0007	1	1	1	0.0026		2024-09-18T07:45:53
L2453290-02	227	Unknown	?	0.0010	1	1	1	0.0049		2024-09-18T07:47:02
L2453344-01	228	Unknown	?	0.0773	1	1	1	0.5830		2024-09-18T07:48:07
L2453348-01	229	Unknown	?	0.0065	1	1	1	0.0465		2024-09-18T07:49:14
L2453350-02	230	Unknown	?	0.0189	1	1	1	0.1408		2024-09-18T07:50:20
L2453285-03	231	Unknown	?	0.0009	1	1	1	0.0039		2024-09-18T07:51:26
L2453356-03; 1 UP TO	232	Unknown	?	0.0032	10	1	1	0.2142		2024-09-18T07:52:35

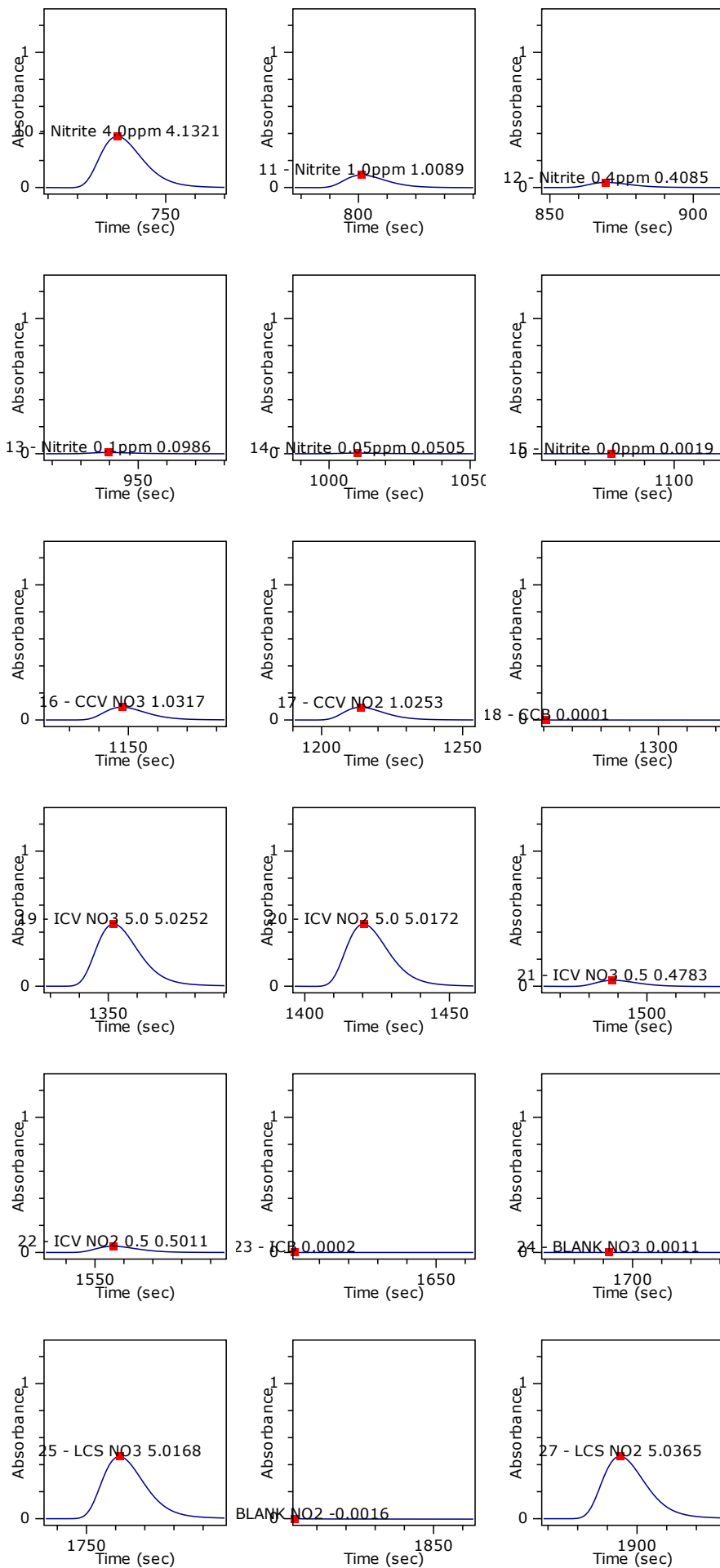
Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
10										
WG1972899-3; 1 UP TO 10	233	Unknown	?	0.0031	10	1	1	0.2079		2024-09-18T07:53:43
WG1972899-4; 1 UP TO 10	234	Unknown	?	0.0030	10	1	1	0.2018		2024-09-18T07:54:52
L2453356-04; 2 UP TO 10	235	Unknown	?	0.0006	5	1	1	0.0093		2024-09-18T07:56:00
CCV NO3	236	QC	?	0.0001	1	1	1	-0.0019		2024-09-18T07:57:08
CCV NO2	237	QC	1	0.1329	1	1	1	1.0046		2024-09-18T07:58:12
CCB	238	QC	0	0.0001	1	1	1	-0.0017		2024-09-18T07:59:25
L2453356-05; 1 UP TO 10	239	Unknown	?	0.0004	10	1	1	-0.0001		2024-09-18T08:00:35
L2453356-06; 1 UP TO 10	240	Unknown	?	0.0031	10	1	1	0.2093		2024-09-18T08:01:47
L2453356-07; 1 UP TO 10	241	Unknown	?	0.0011	10	1	1	0.0543		2024-09-18T08:02:56
L2453356-08; 2 UP TO 10	242	Unknown	?	0.0002	5	1	1	-0.0044		2024-09-18T08:04:04
WG1972898-4; 2 UP TO 10	243	Unknown	?	0.0009	5	1	1	0.0195		2024-09-18T08:05:13
L2453341-01; 1 UP TO 10	244	Unknown	?	0.3383	10	1	1	25.6139		2024-09-18T08:06:22
L2453344-01; 2 UP TO 10	245	Unknown	?	0.0157	5	1	1	0.5813		2024-09-18T08:07:31
L2453344-02; 2 UP TO 10	246	Unknown	?	0.0121	5	1	1	0.4464		2024-09-18T08:08:39
L2453350-01; 2 UP TO 10	247	Unknown	?	0.0135	5	1	1	0.4983		2024-09-18T08:09:48
L2453331-02	248	Unknown	?	0.0007	1	1	1	0.0025		2024-09-18T08:10:55
CCV NO3	249	QC	?	0.0001	1	1	1	-0.0017		2024-09-18T08:11:58
CCV NO2	250	QC	1	0.1335	1	1	1	1.0092		2024-09-18T08:13:06
CCB	251	QC	0	0.0001	1	1	1	-0.0017		2024-09-18T08:14:18
L2453285-02; 2 UP TO 10	252	Unknown	?	0.0002	5	1	1	-0.0067		2024-09-18T08:15:31
L2453331-01; 2 UP TO 10	253	Unknown	?	0.0002	5	1	1	-0.0066		2024-09-18T08:16:40
L2453290-02	254	Unknown	?	0.0010	1	1	1	0.0049		2024-09-18T08:17:48
L2453348-01	255	Unknown	?	0.0065	1	1	1	0.0464		2024-09-18T08:18:54
L2453277-01; 2 UP TO 10	256	Unknown	?	0.0002	5	1	1	-0.0070		2024-09-18T08:20:04
L2453270-01	257	Unknown	?	0.0009	1	1	1	0.0041		2024-09-18T08:21:10
L2453275-01	258	Unknown	?	0.0009	1	1	1	0.0042		2024-09-18T08:22:16
L2453296-01	259	Unknown	?	0.0042	1	1	1	0.0293		2024-09-18T08:23:23

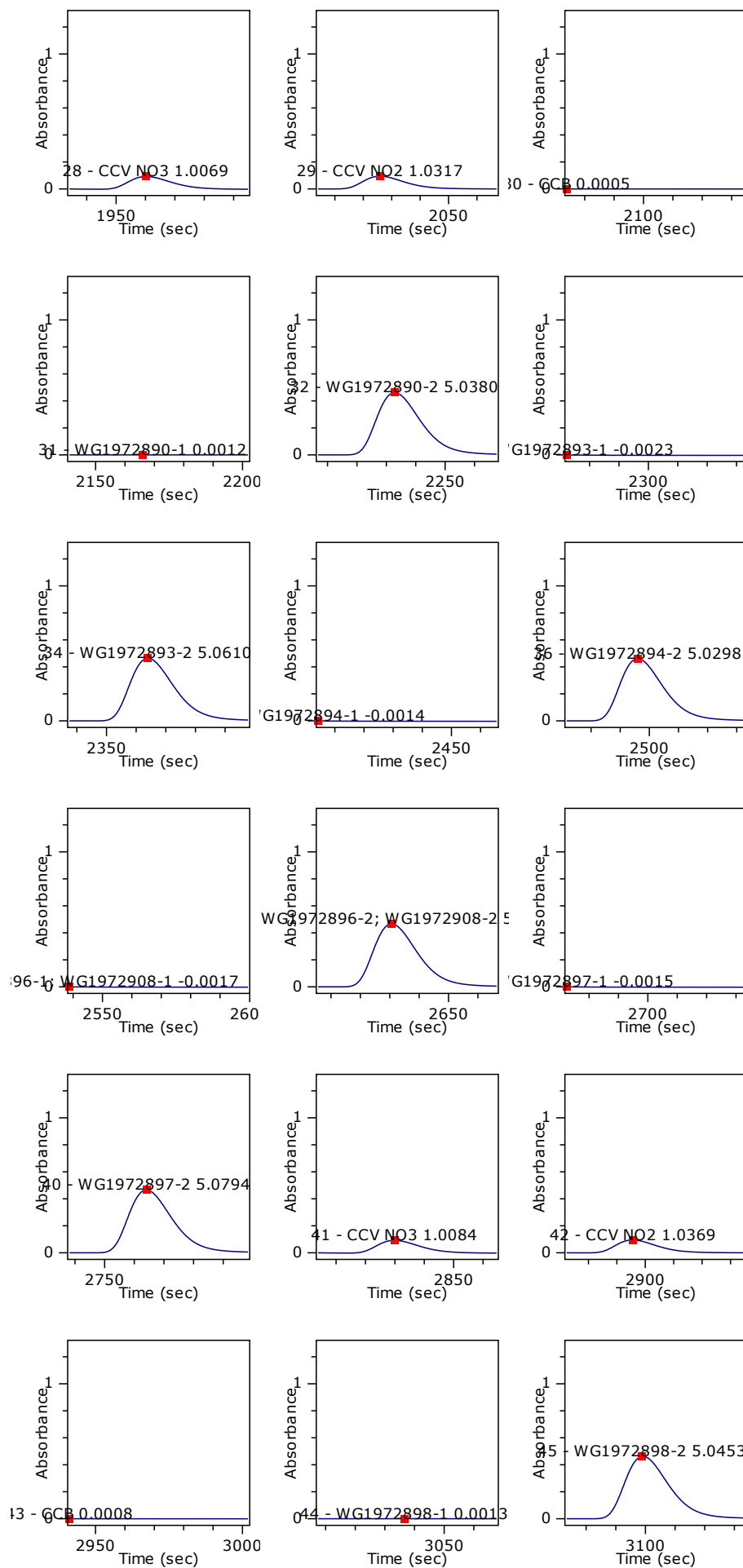
Name	Inj. No.	Type	Known Conc. mg/L	Response	MDF	ADF	Weight	Calc. Conc. mg/L	Flags	Time
L2453081-03	260	Unknown	?	0.0031	1	1	1	0.0206		2024-09-18T08:24:30
L2453081-04	261	Unknown	?	0.0012	1	1	1	0.0061		2024-09-18T08:25:38
CCV NO3	262	QC	?	0.0001	1	1	1	-0.0019		2024-09-18T08:26:42
CCV NO2	263	QC	1	0.1340	1	1	1	1.0130		2024-09-18T08:27:48
CCB	264	QC	0	0.0002	1	1	1	-0.0016		2024-09-18T08:29:02
L2453081-05	265	Unknown	?	0.0025	1	1	1	0.0163		2024-09-18T08:30:09
L2453072-01	266	Unknown	?	0.0137	1	1	1	0.1007		2024-09-18T08:31:18
CCV NO3	267	QC	?	0.0001	1	1	1	-0.0020		2024-09-18T08:32:23
CCV NO2	268	QC	1	0.1344	1	1	1	1.0160		2024-09-18T08:33:30
CCB	269	QC	0	0.0001	1	1	1	-0.0019		2024-09-18T08:34:41

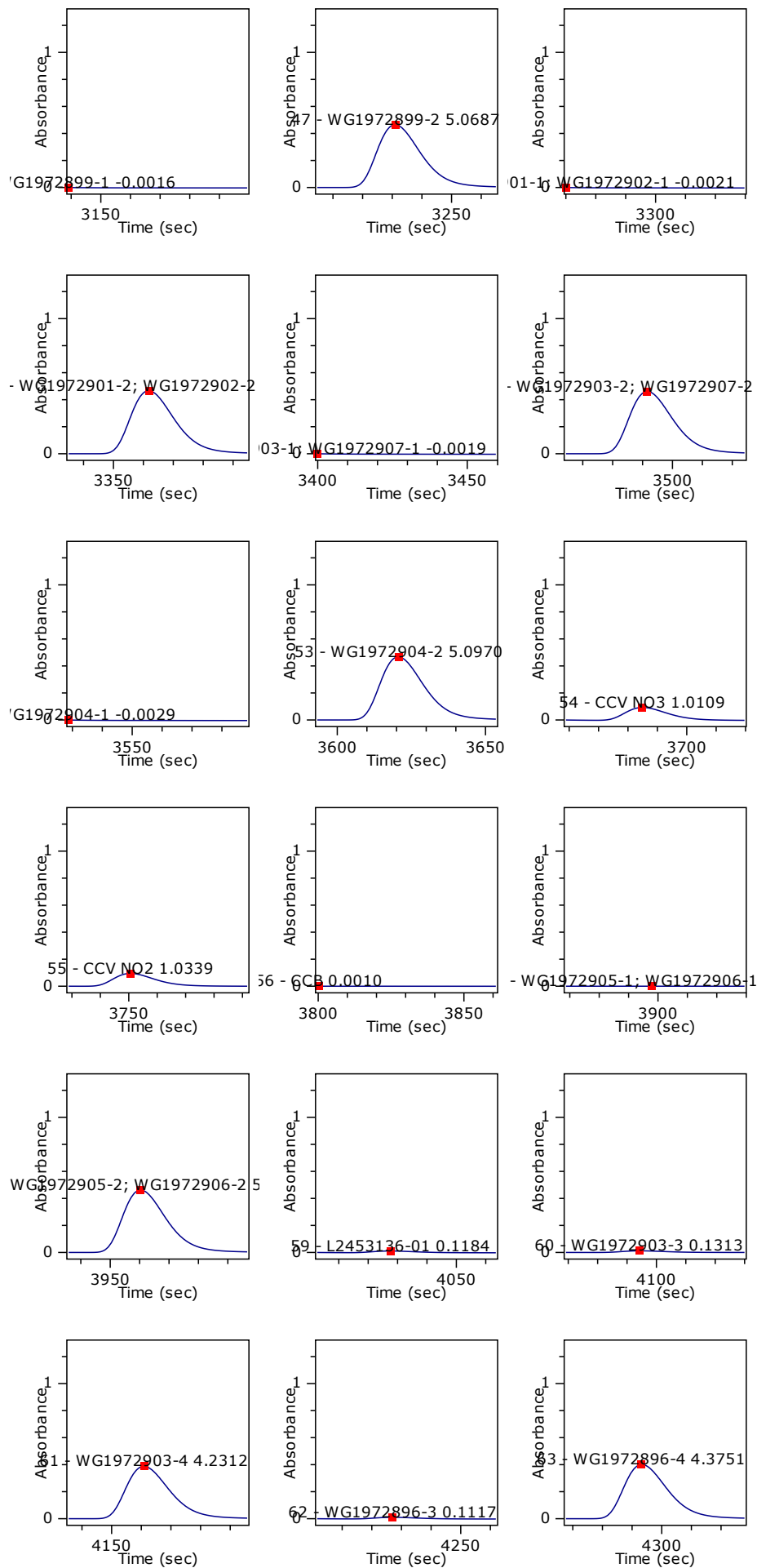
Peaks:

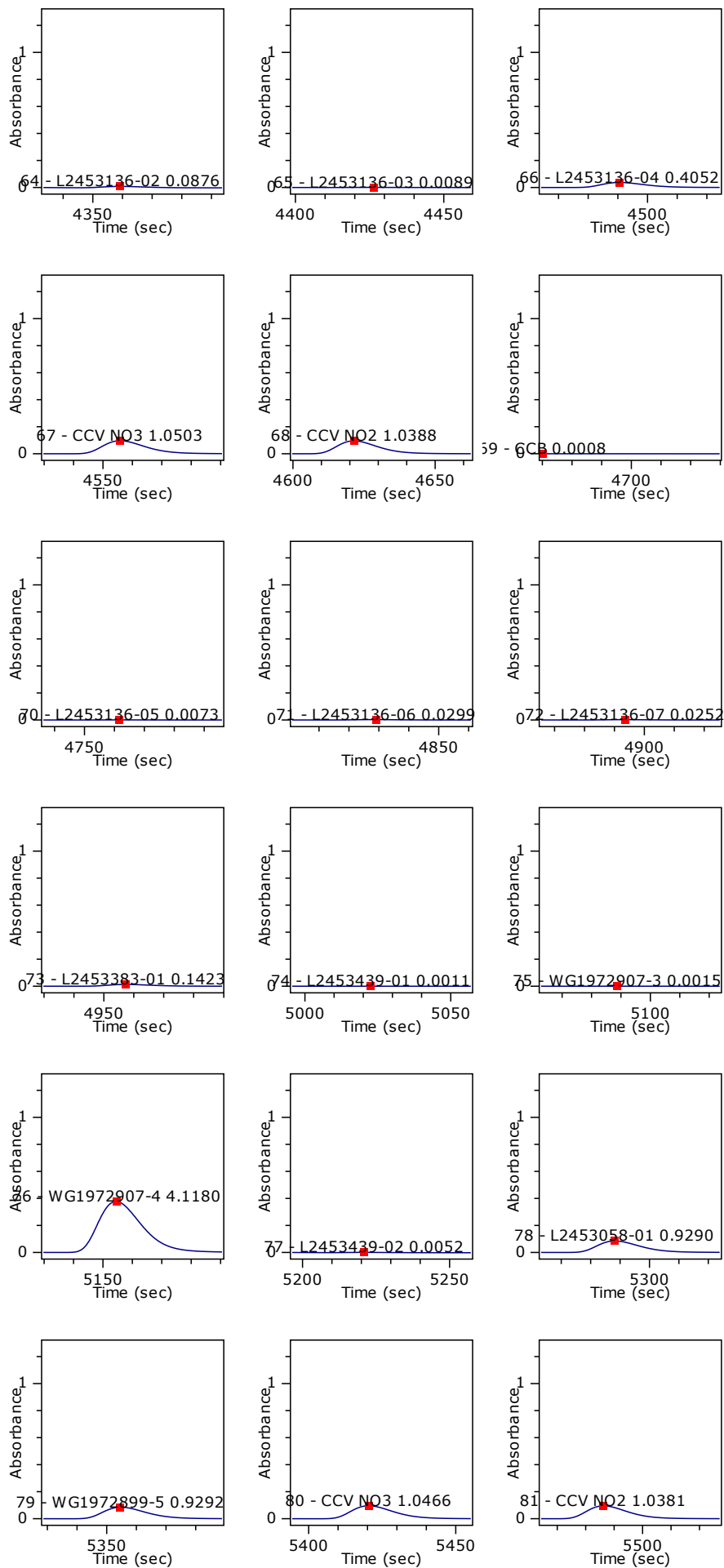
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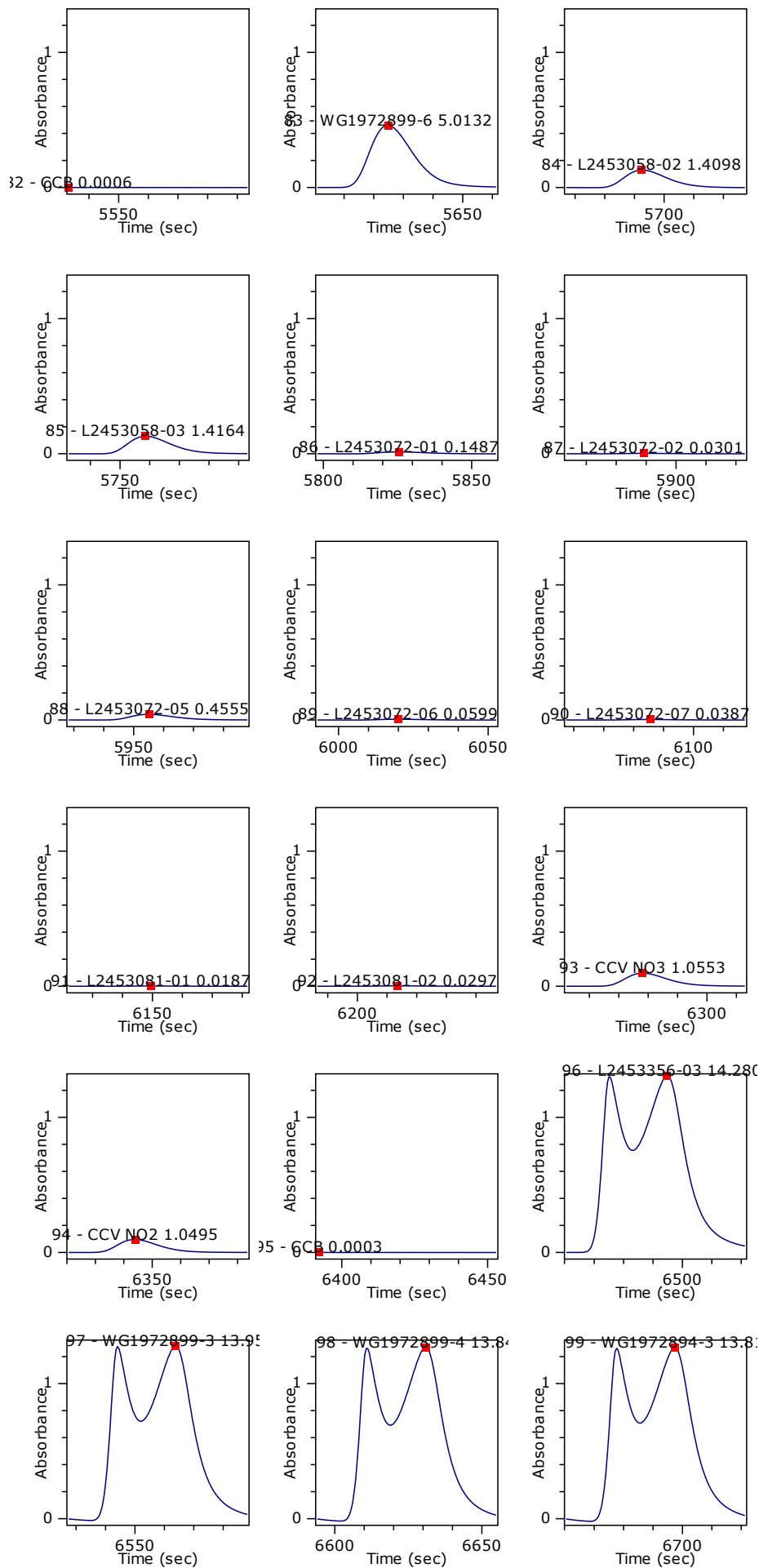


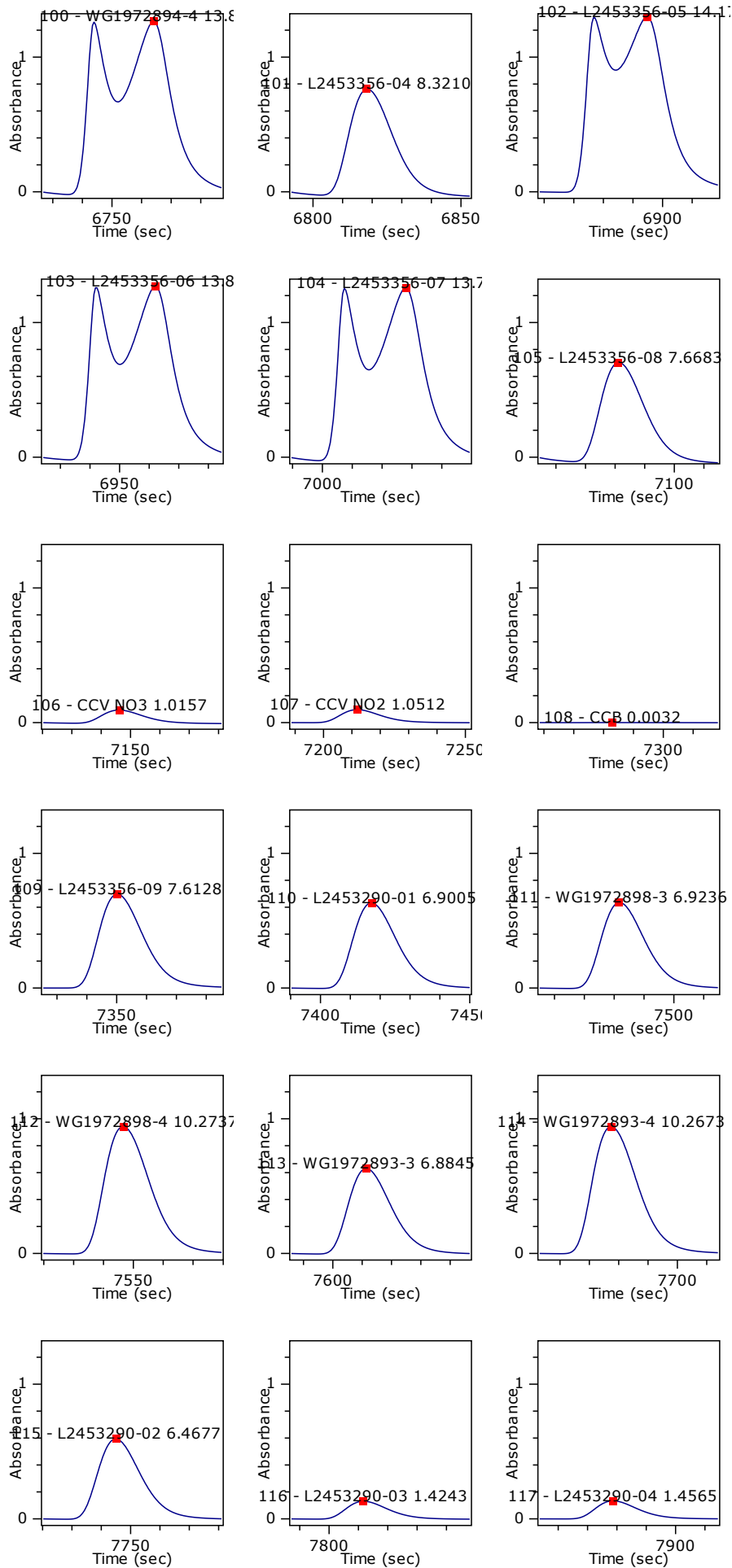


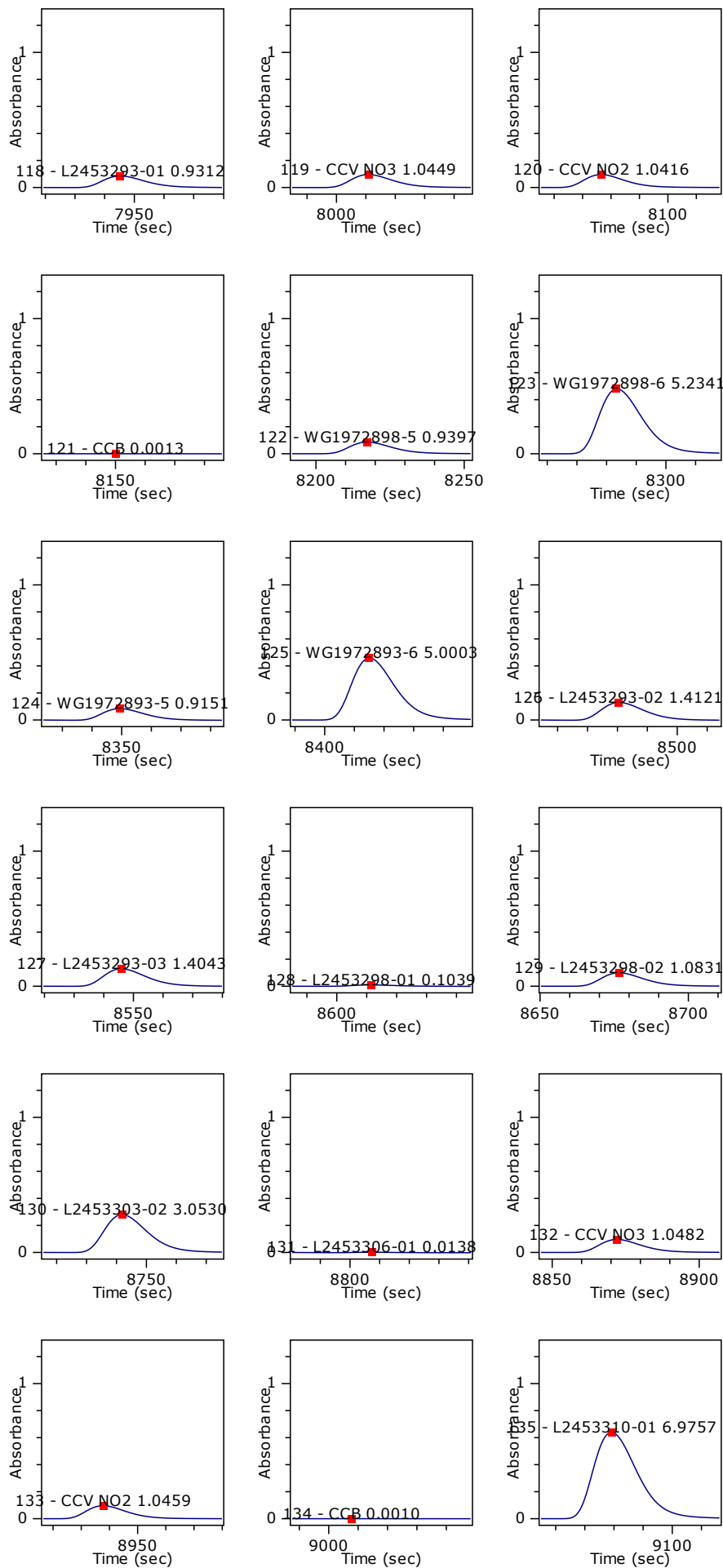


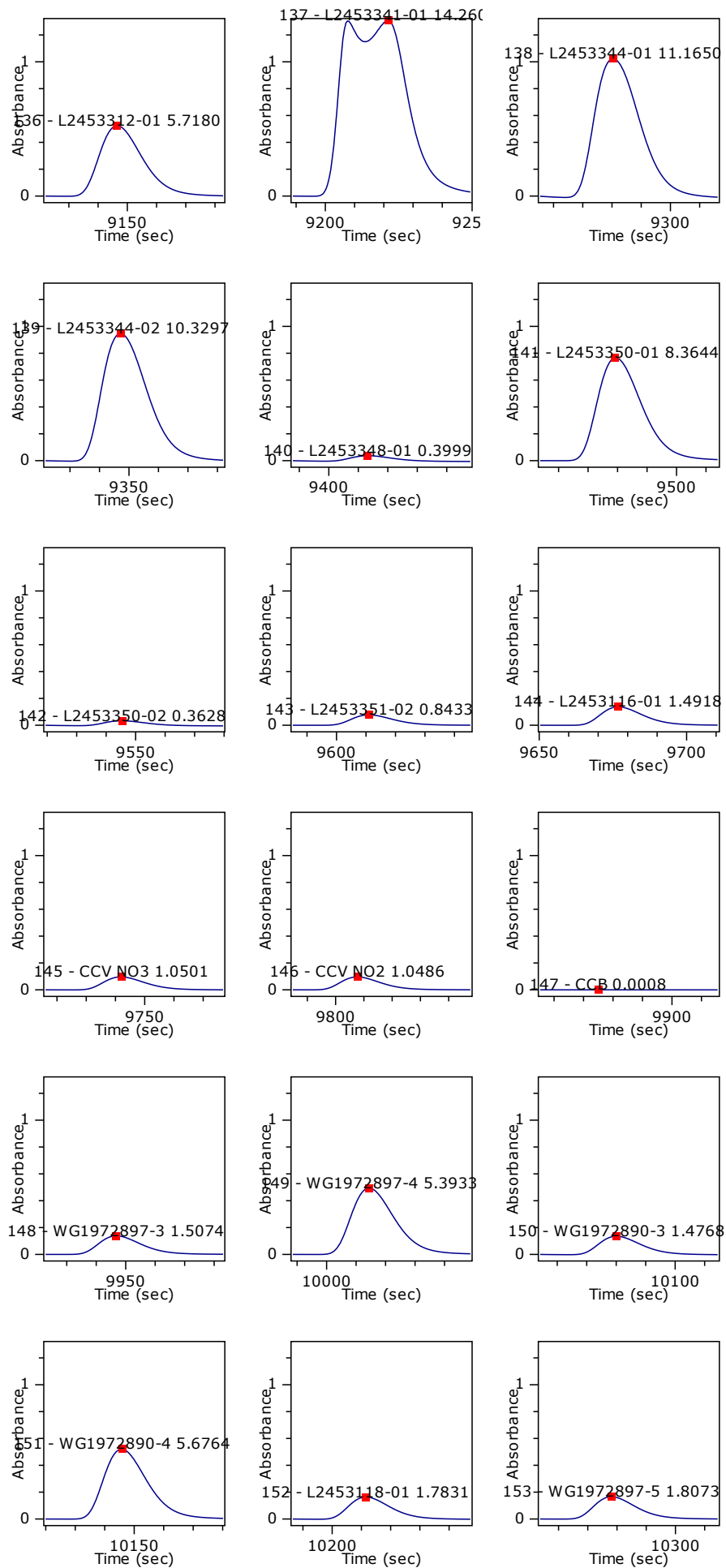


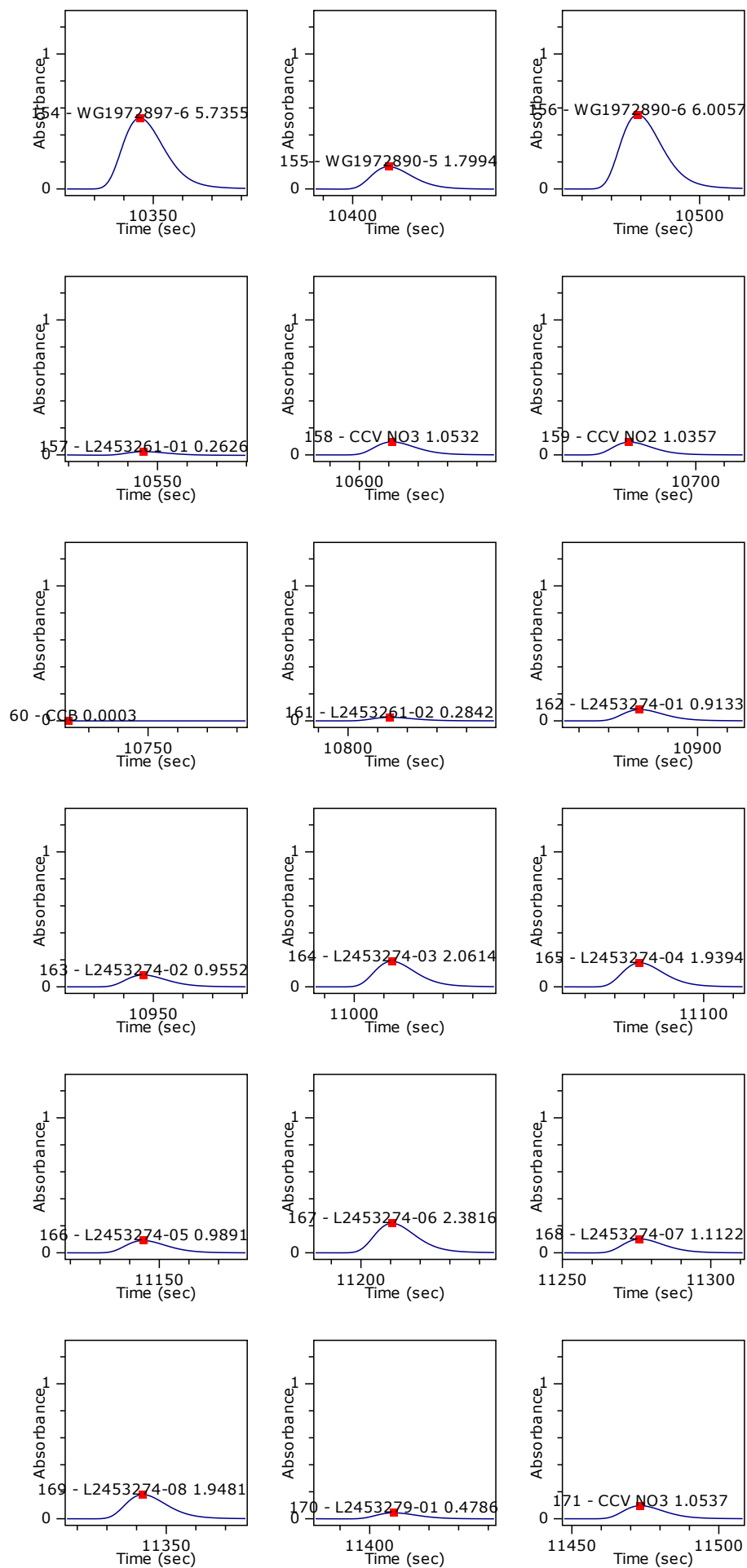


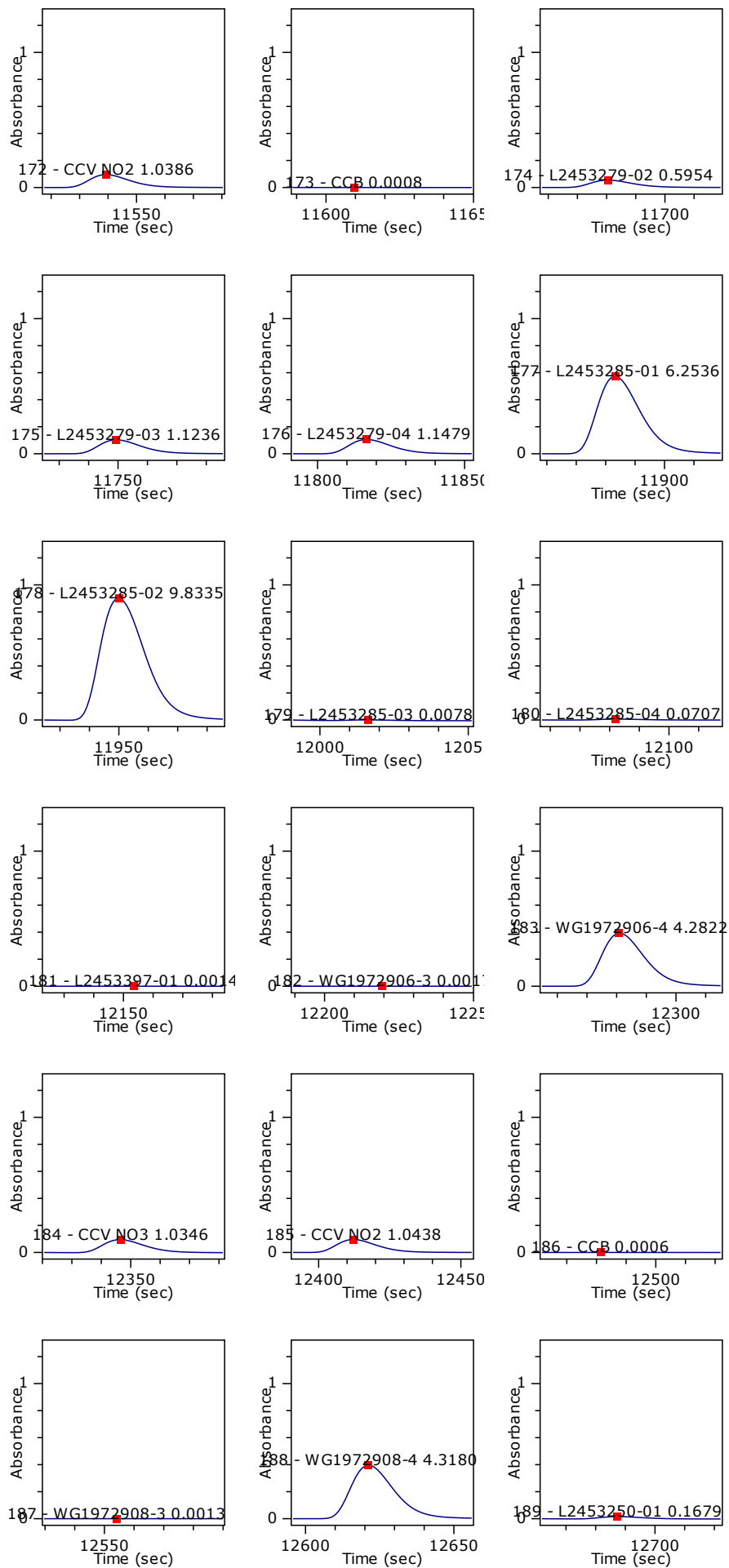


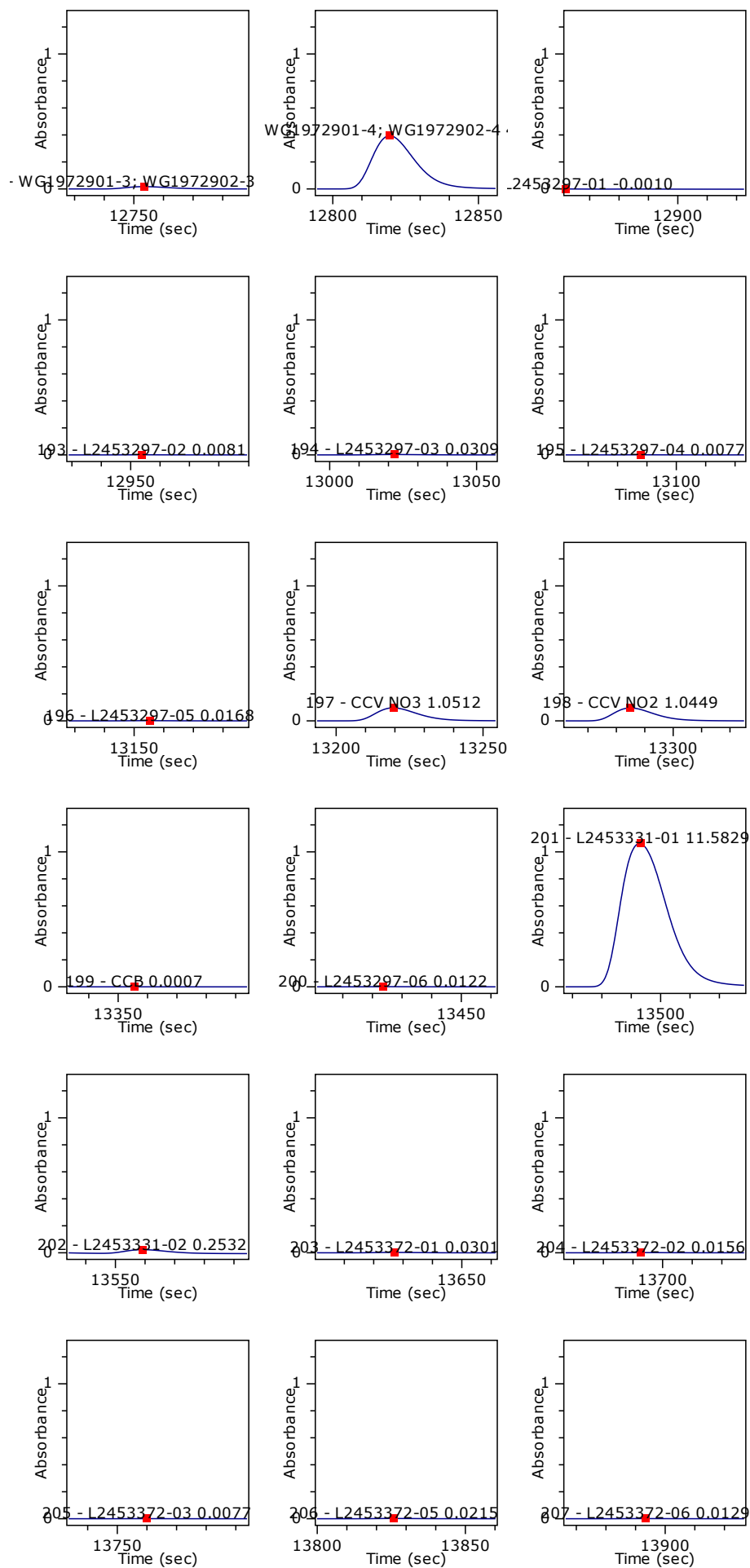


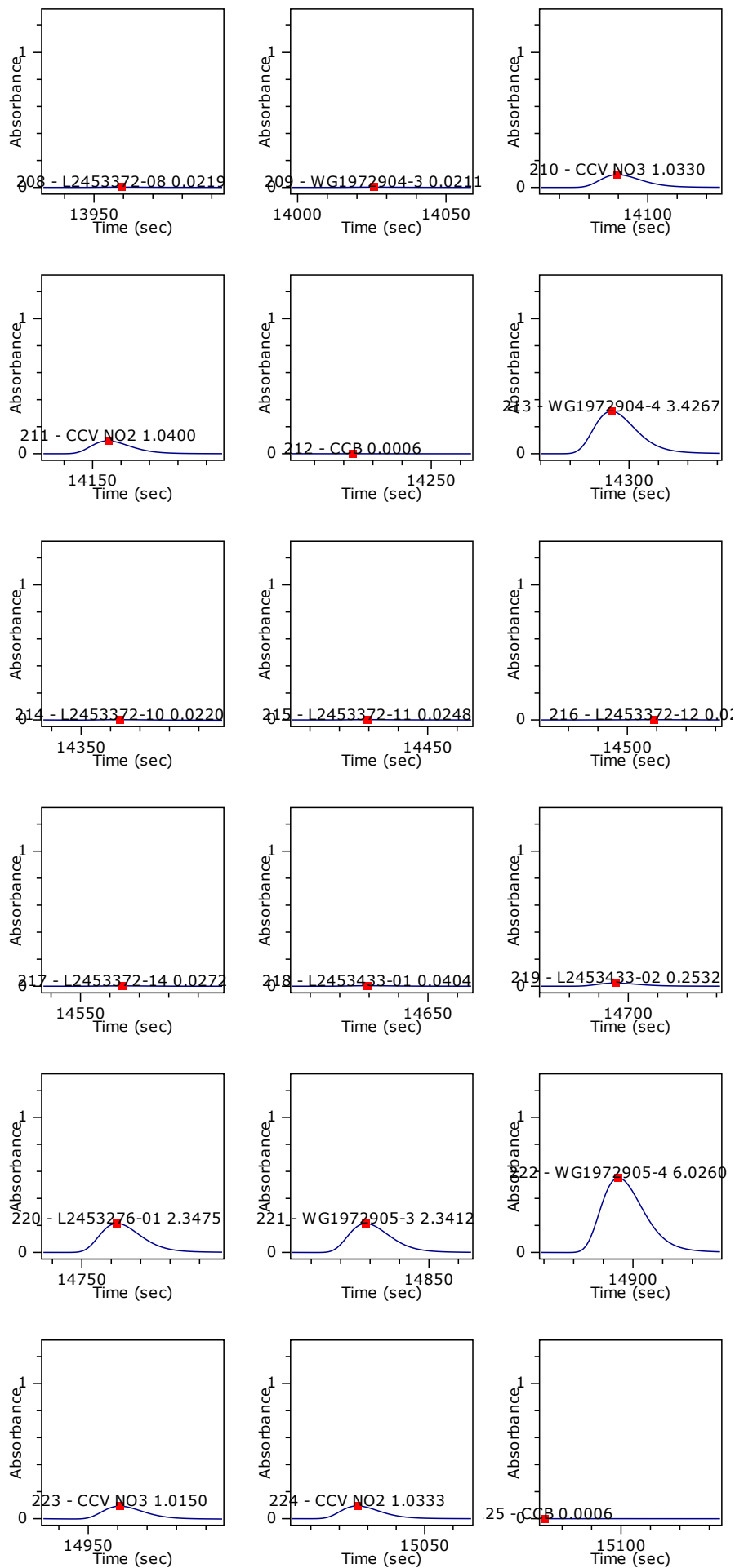


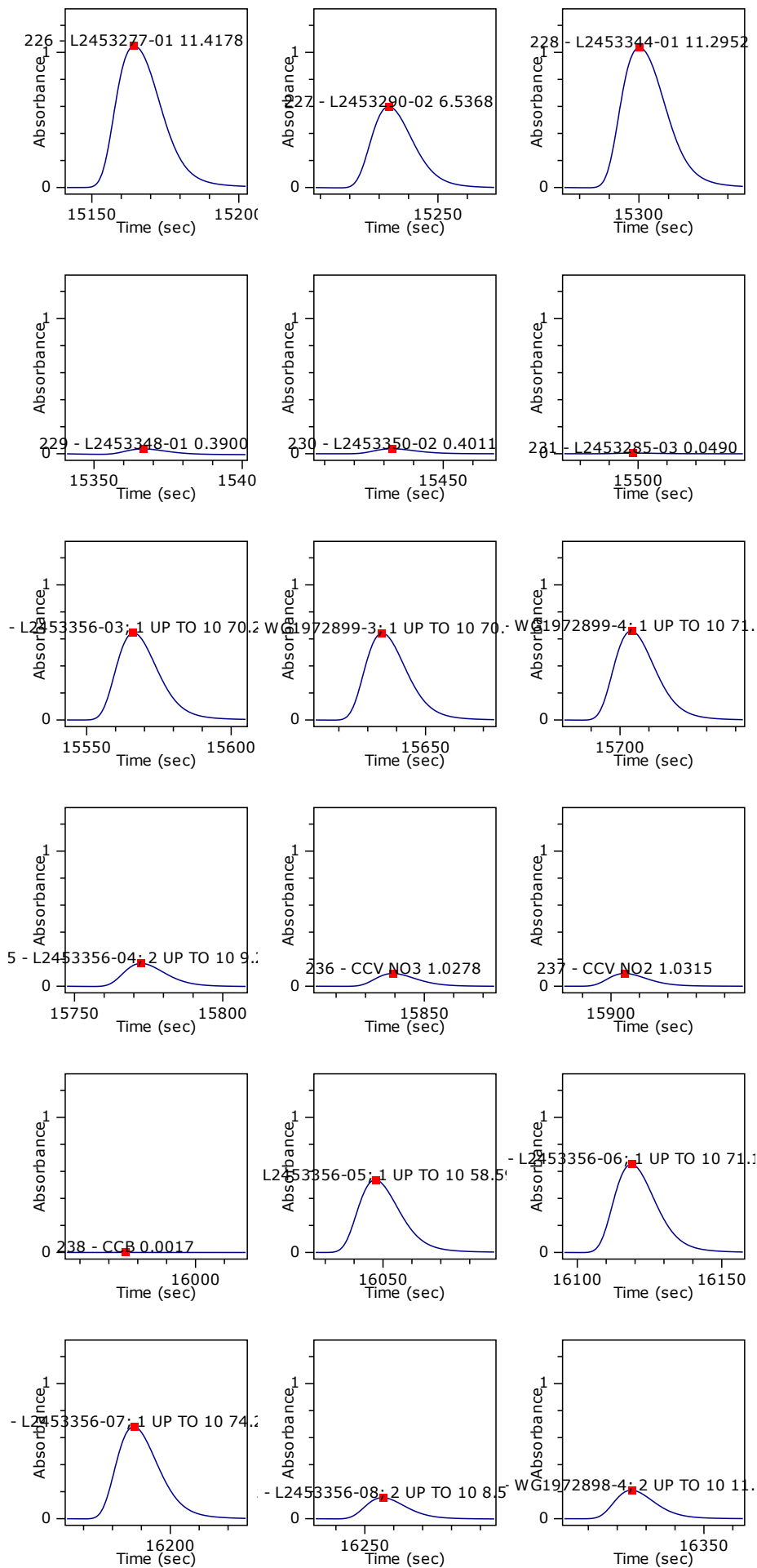


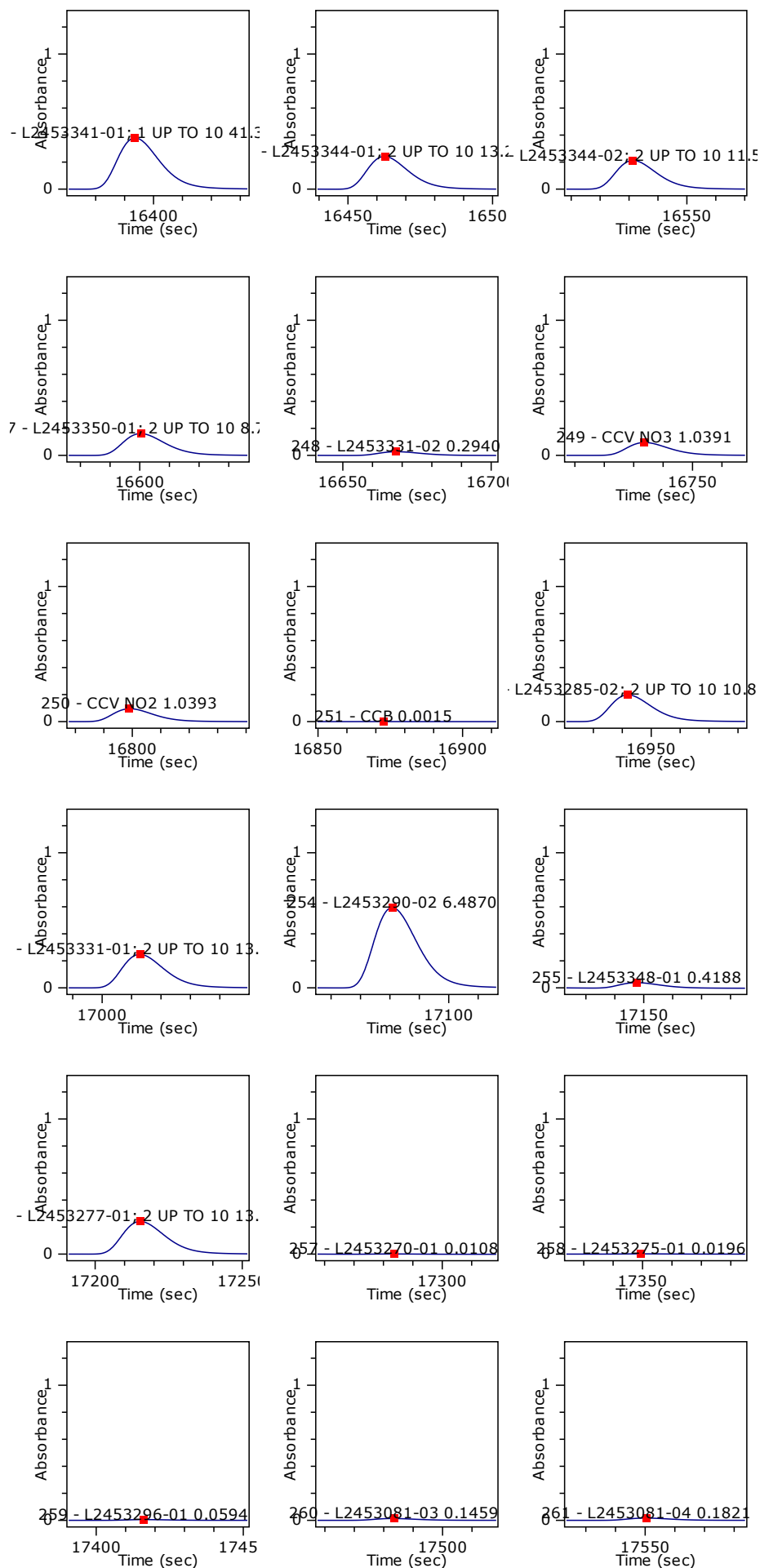


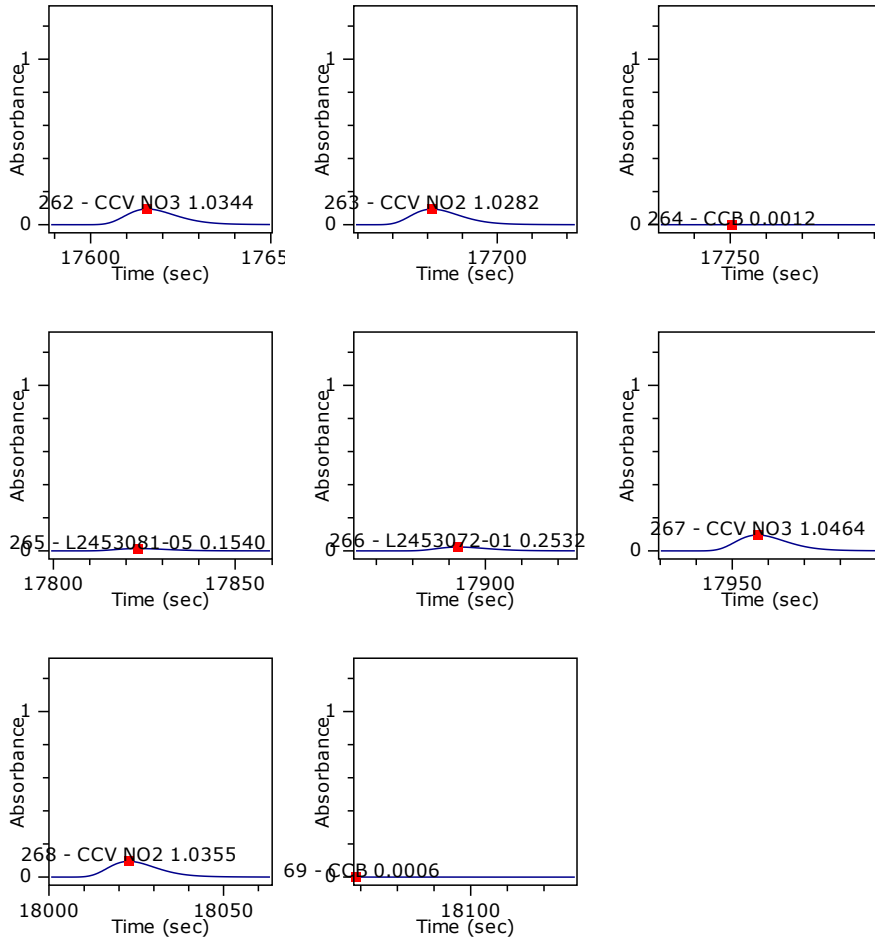




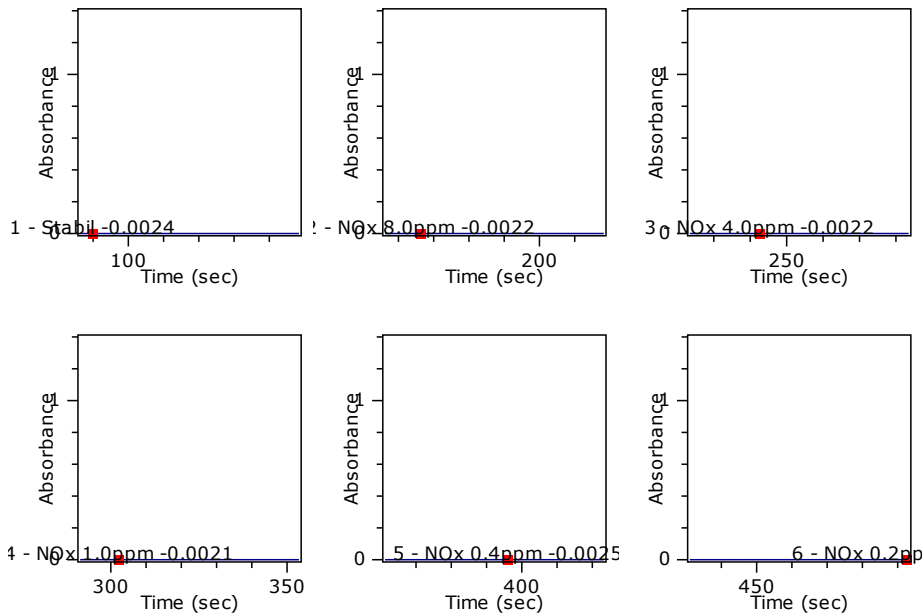


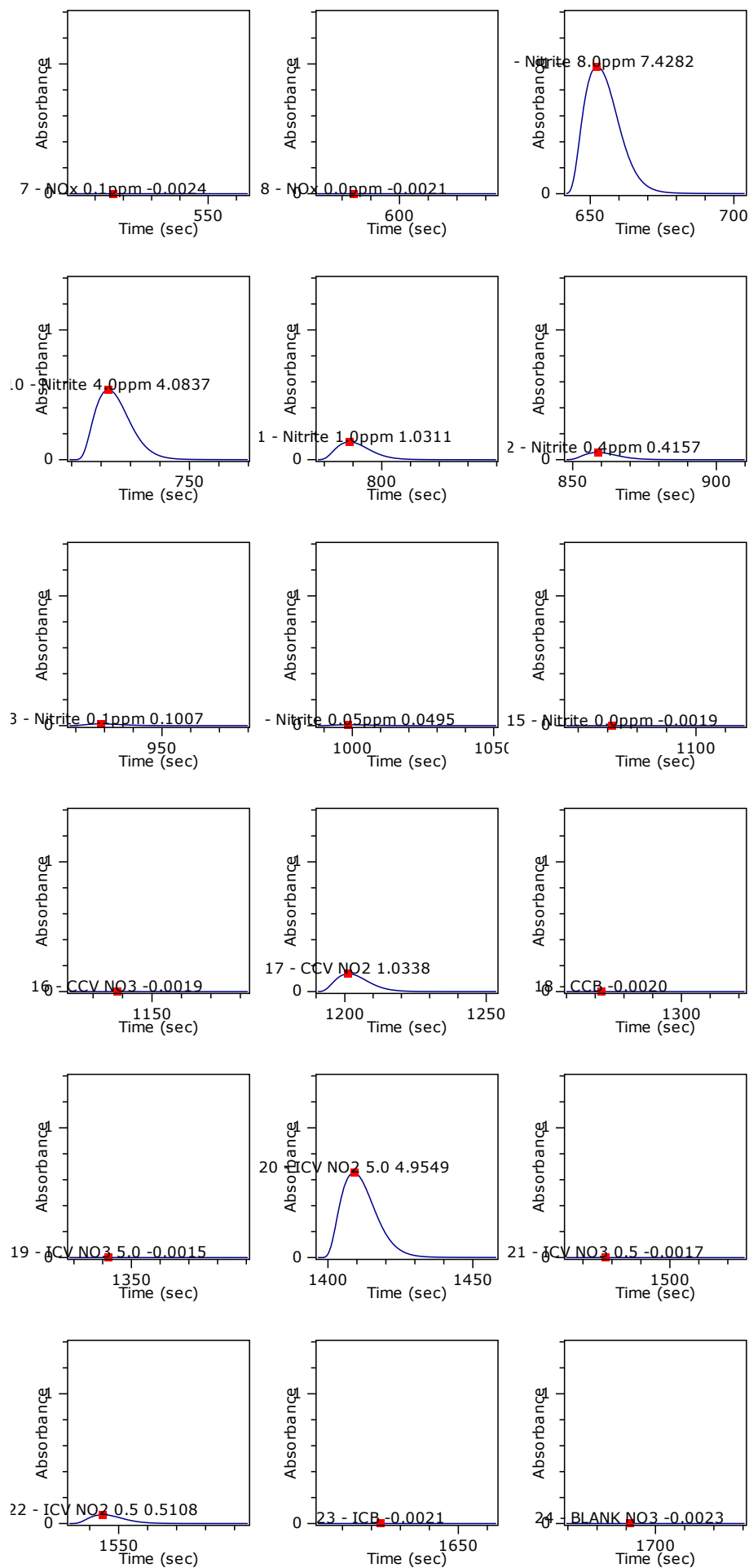


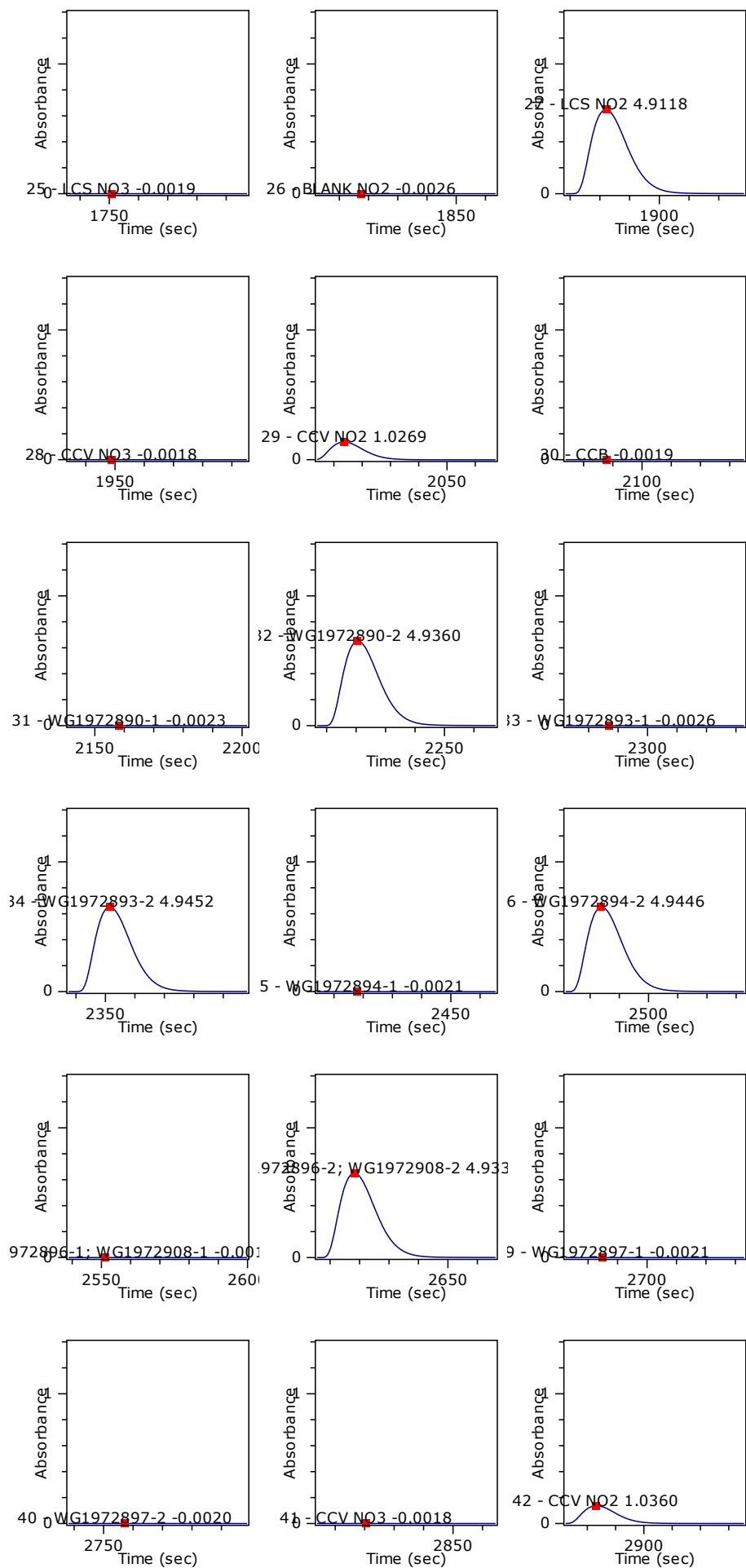


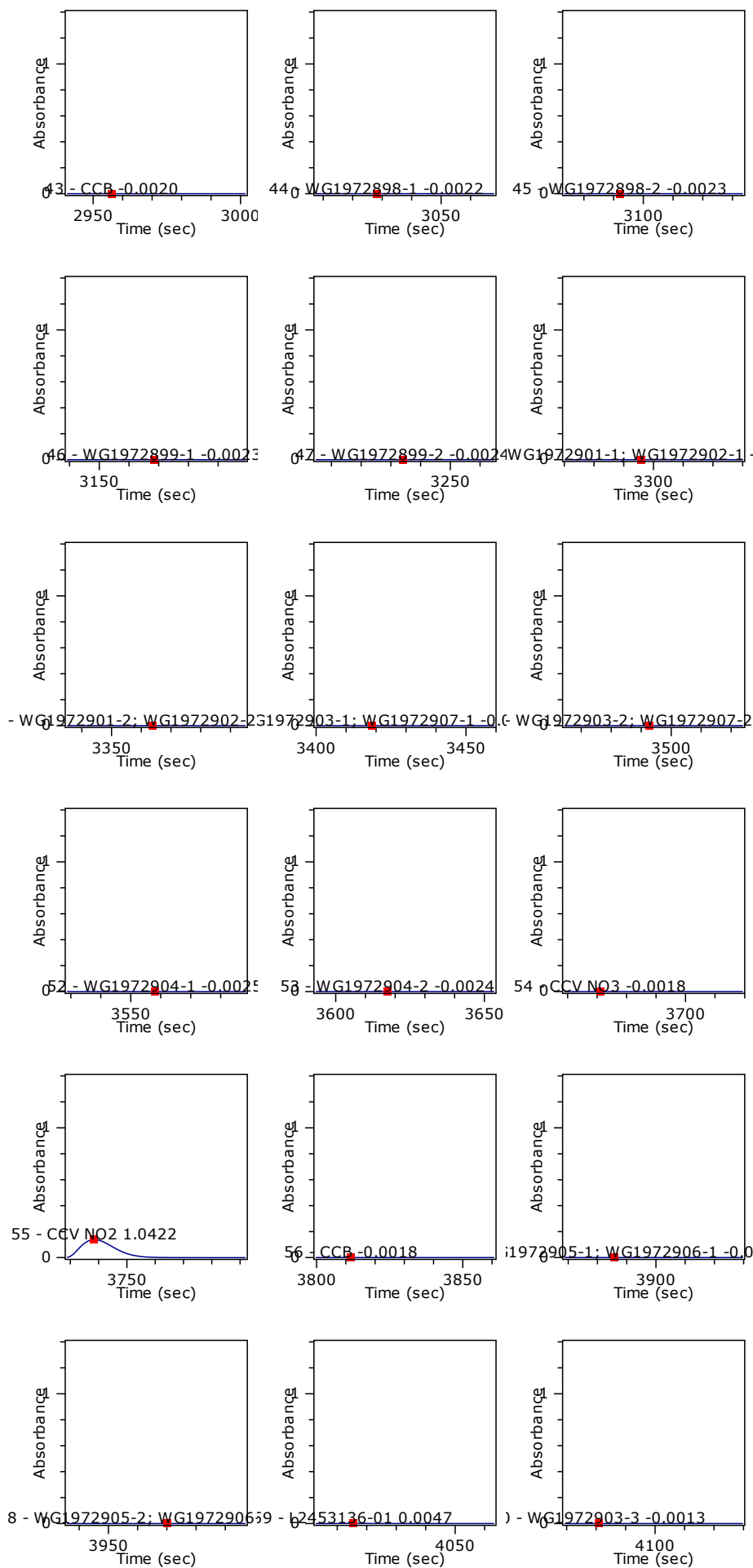


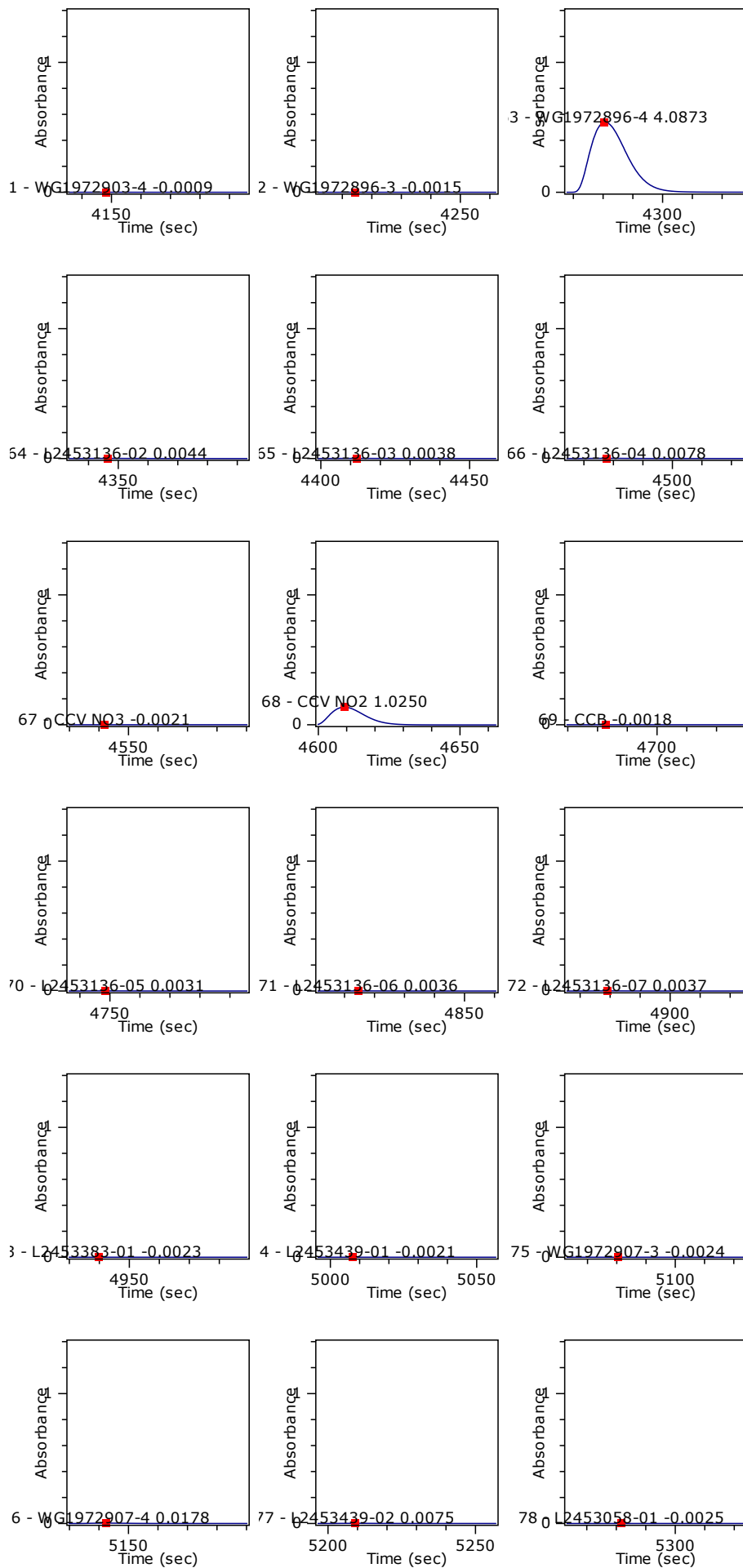
Channel: 2-NO2

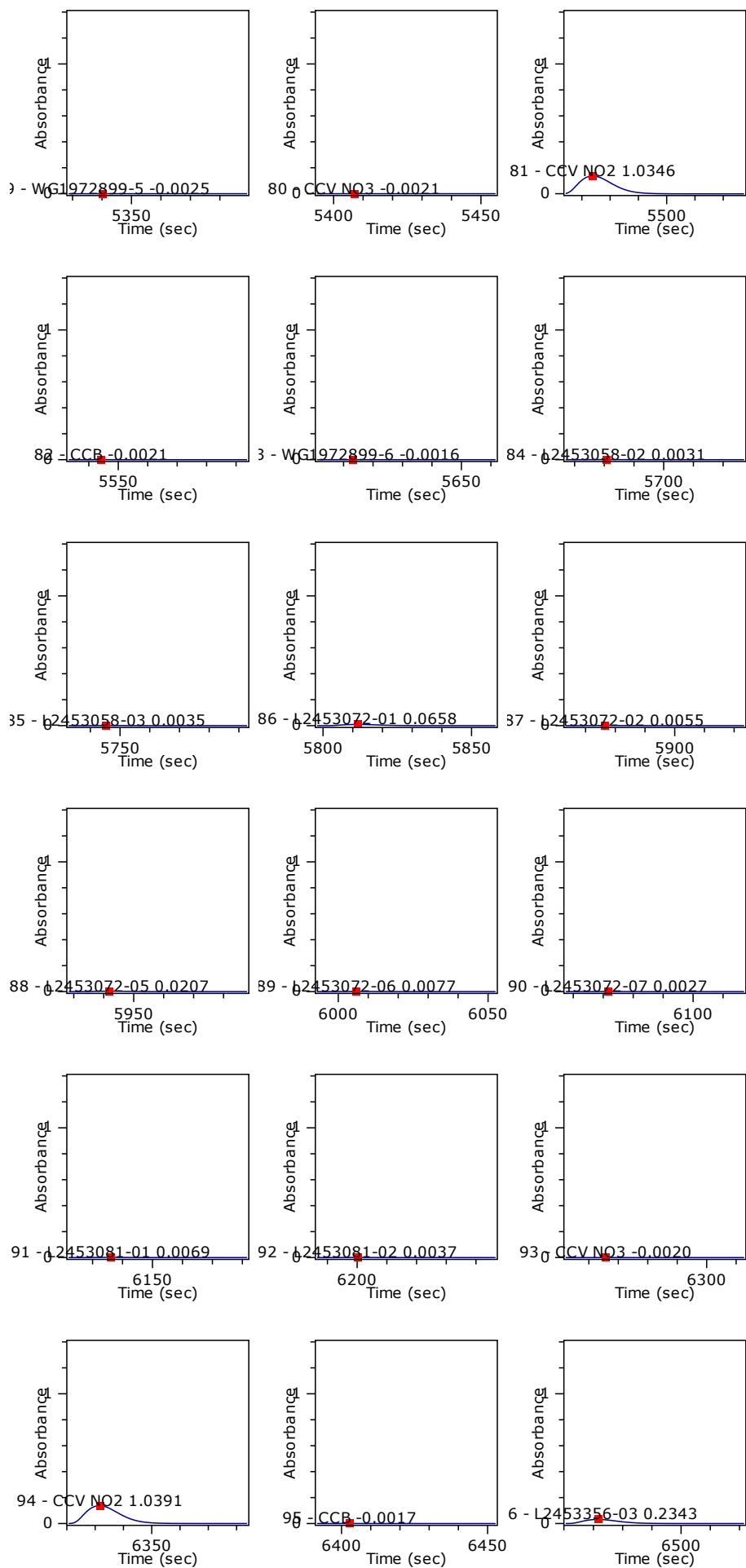


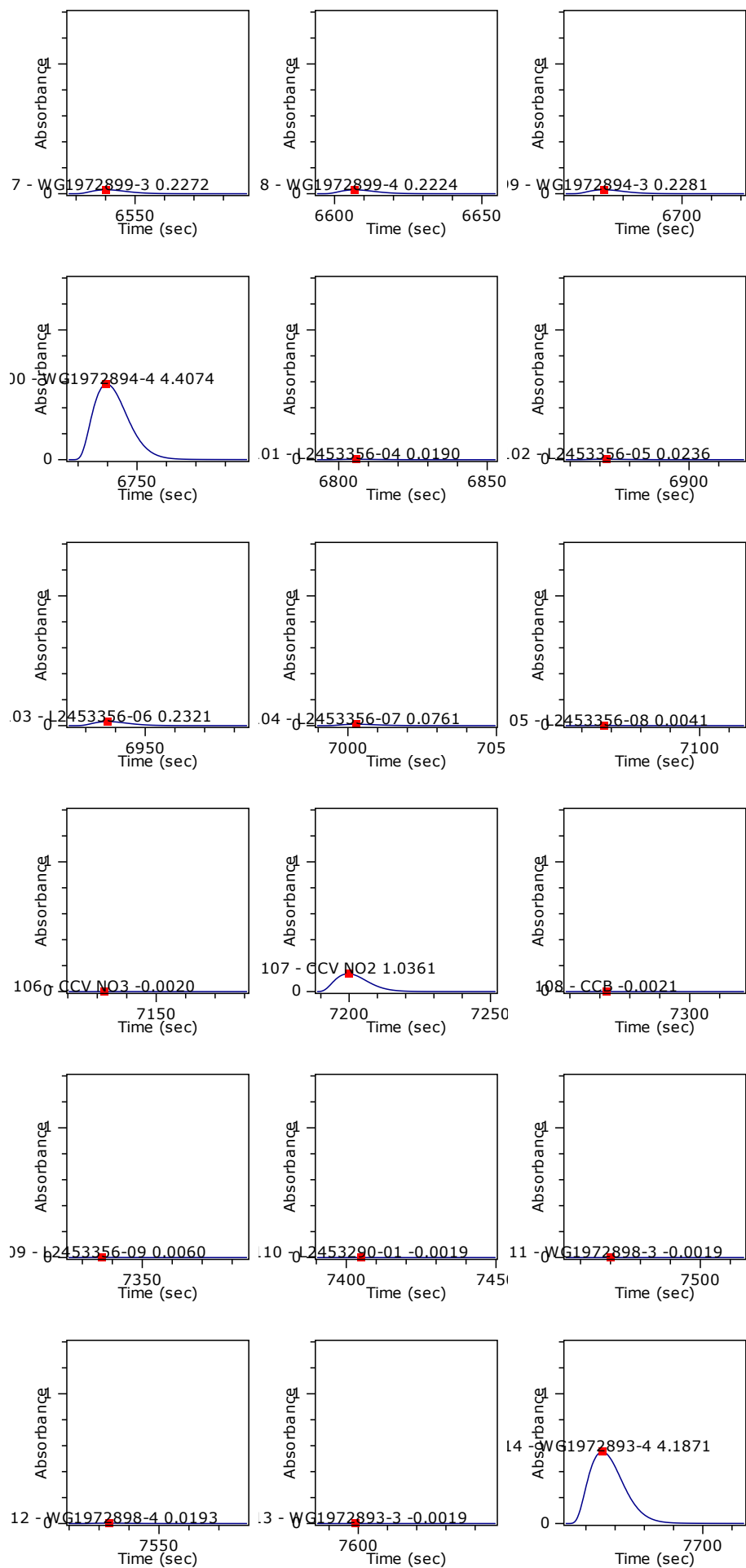


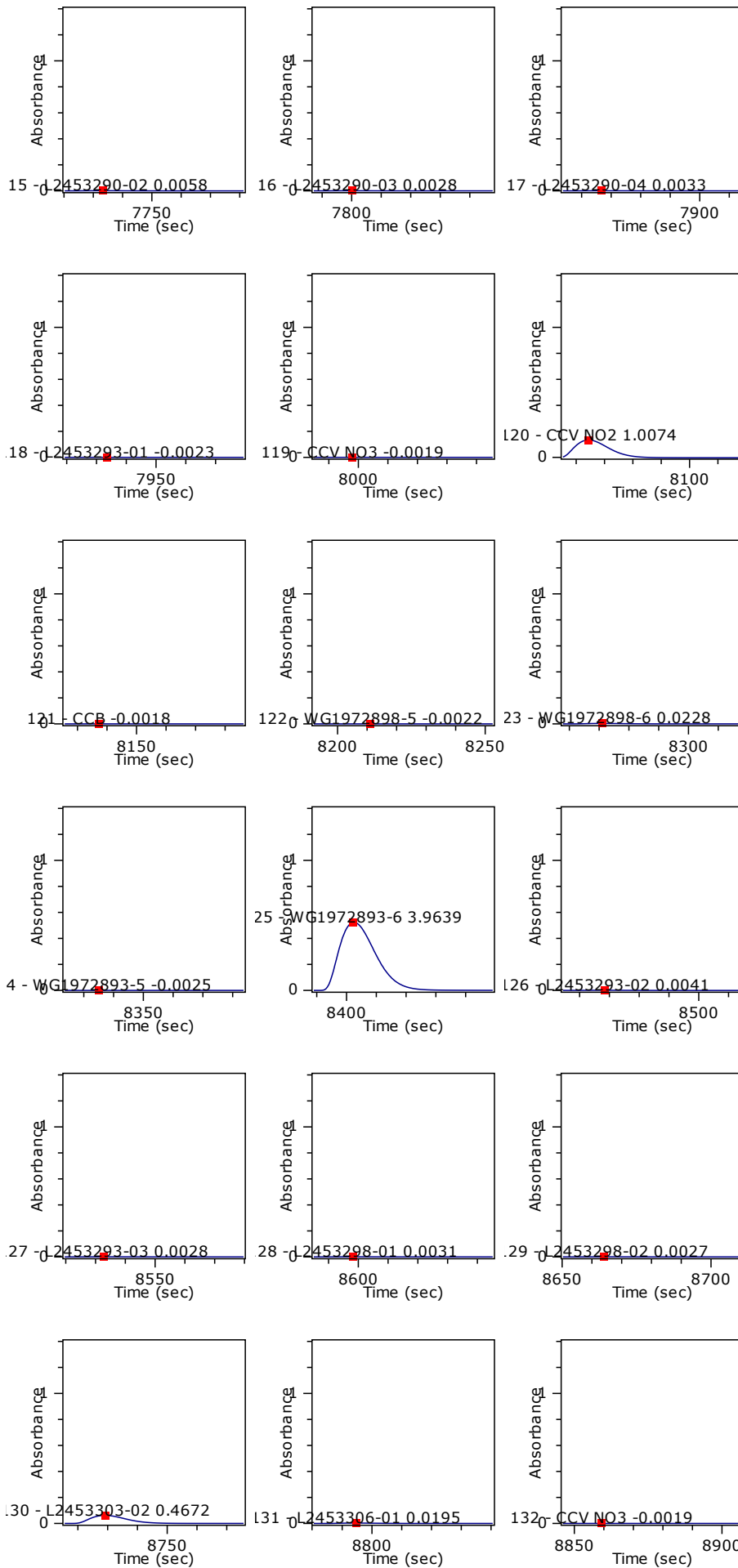


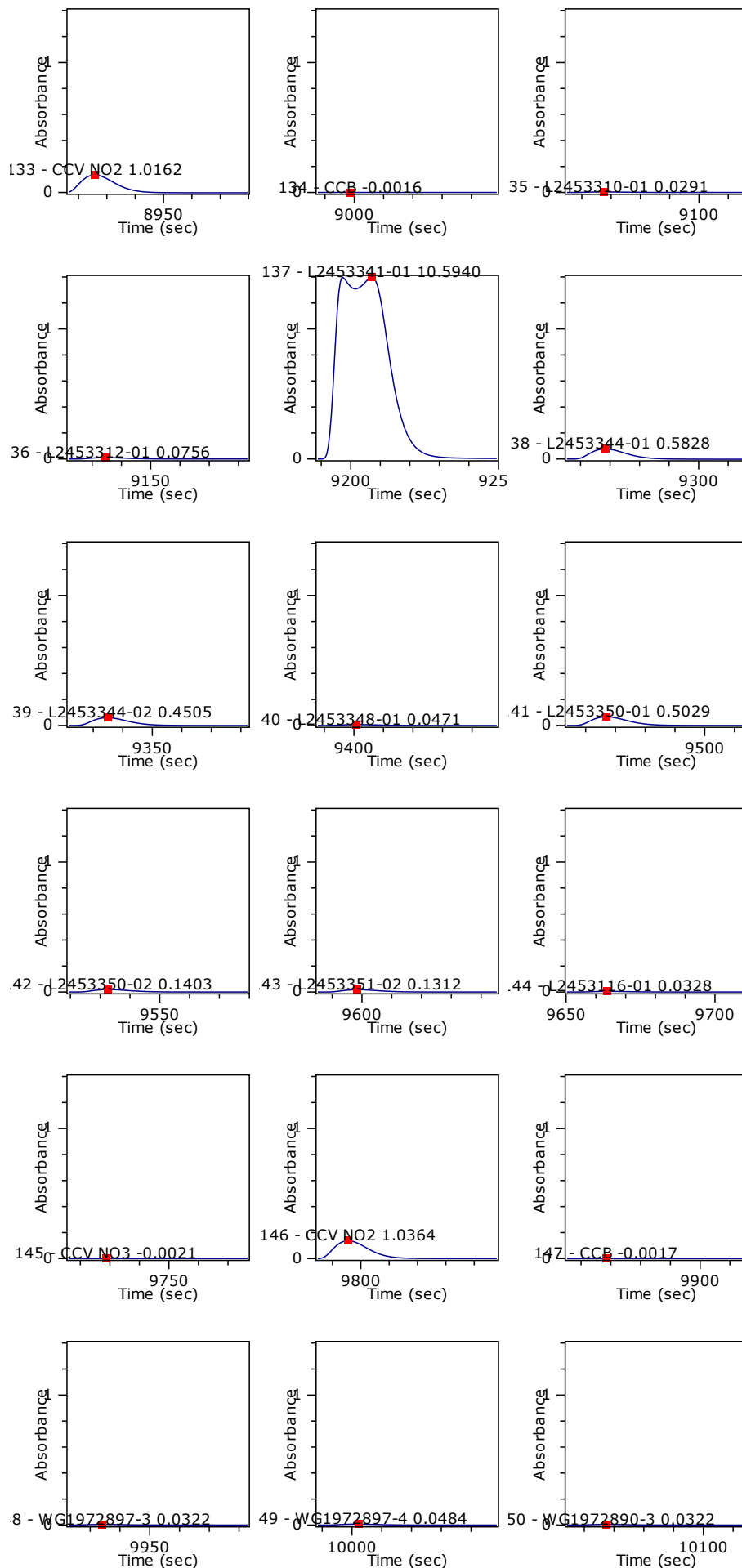


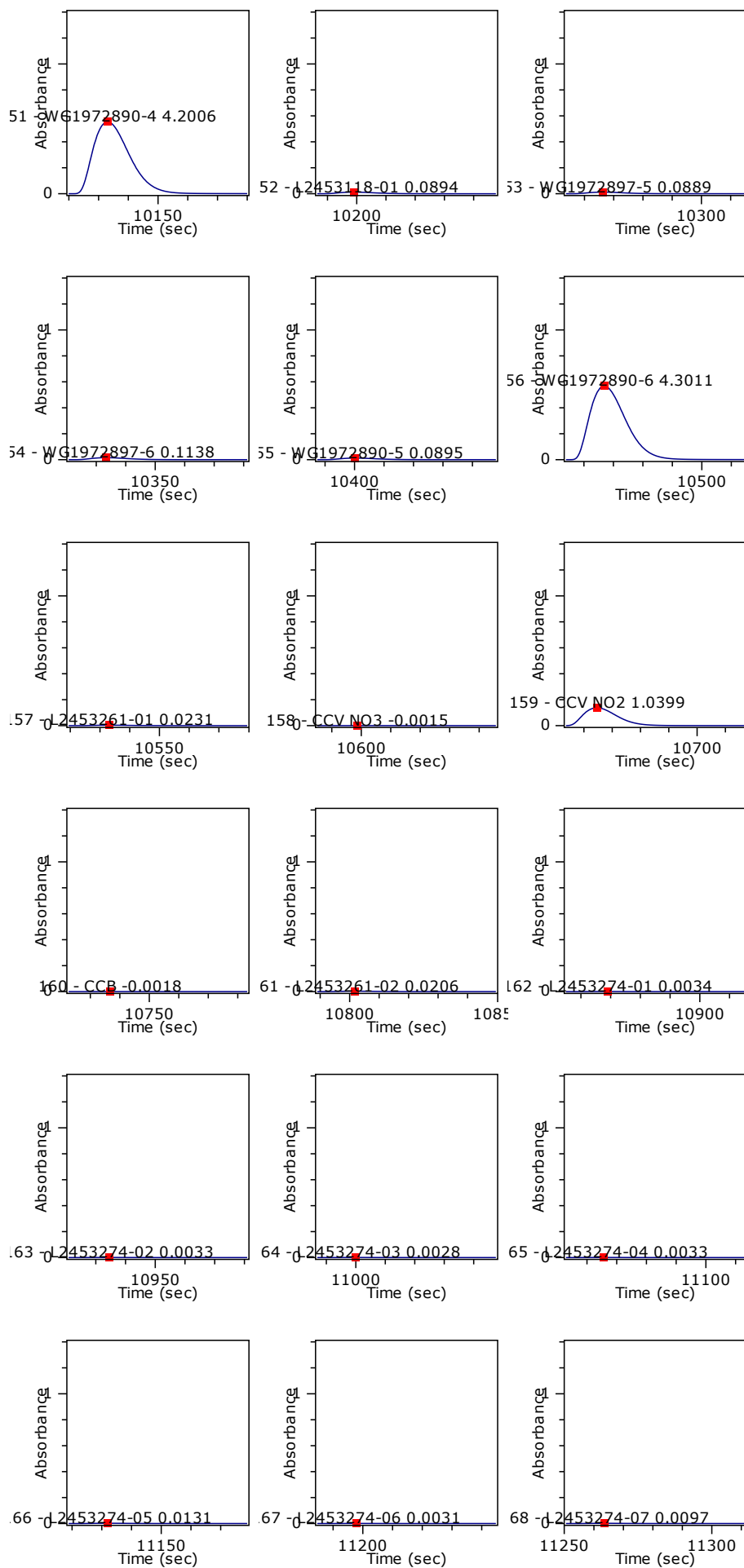


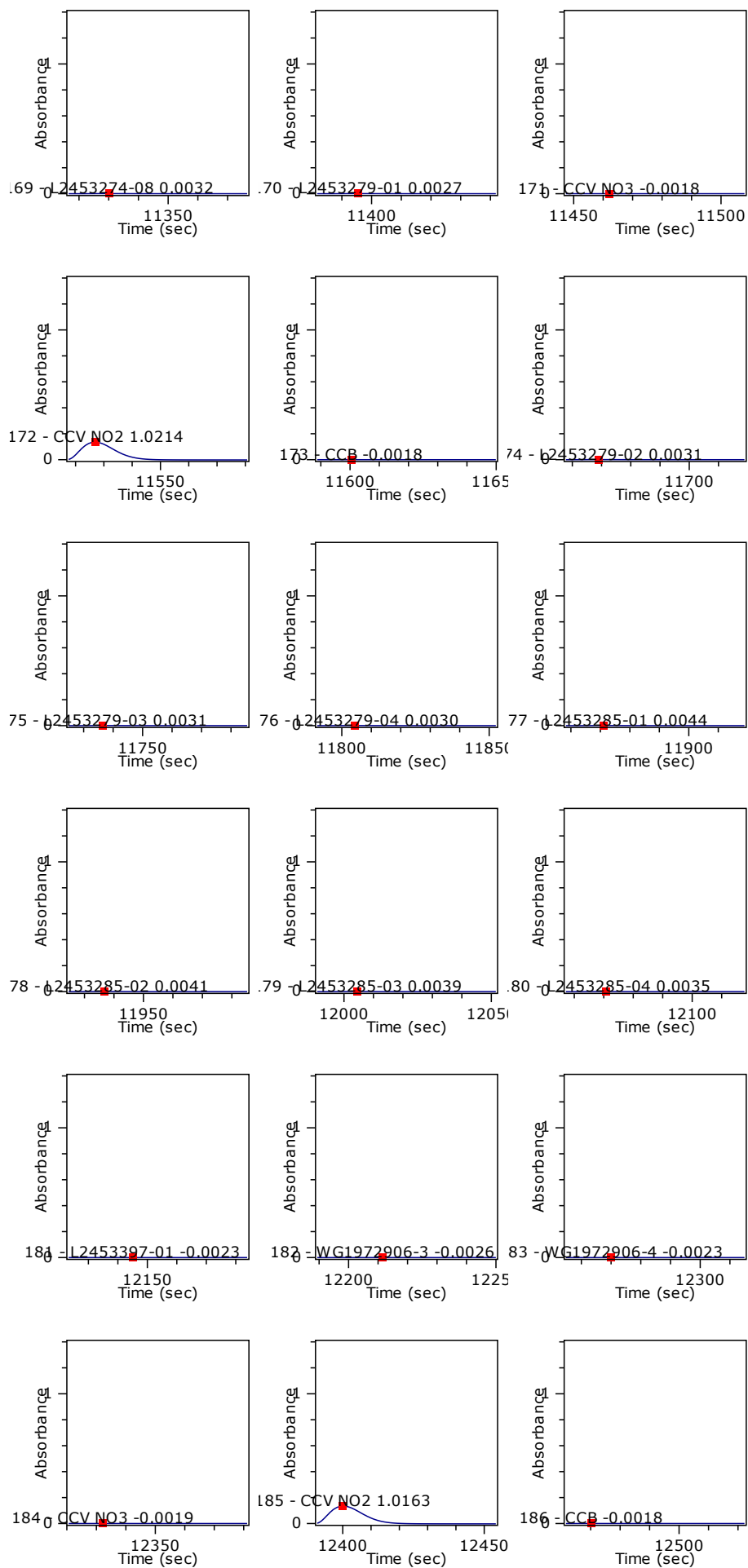


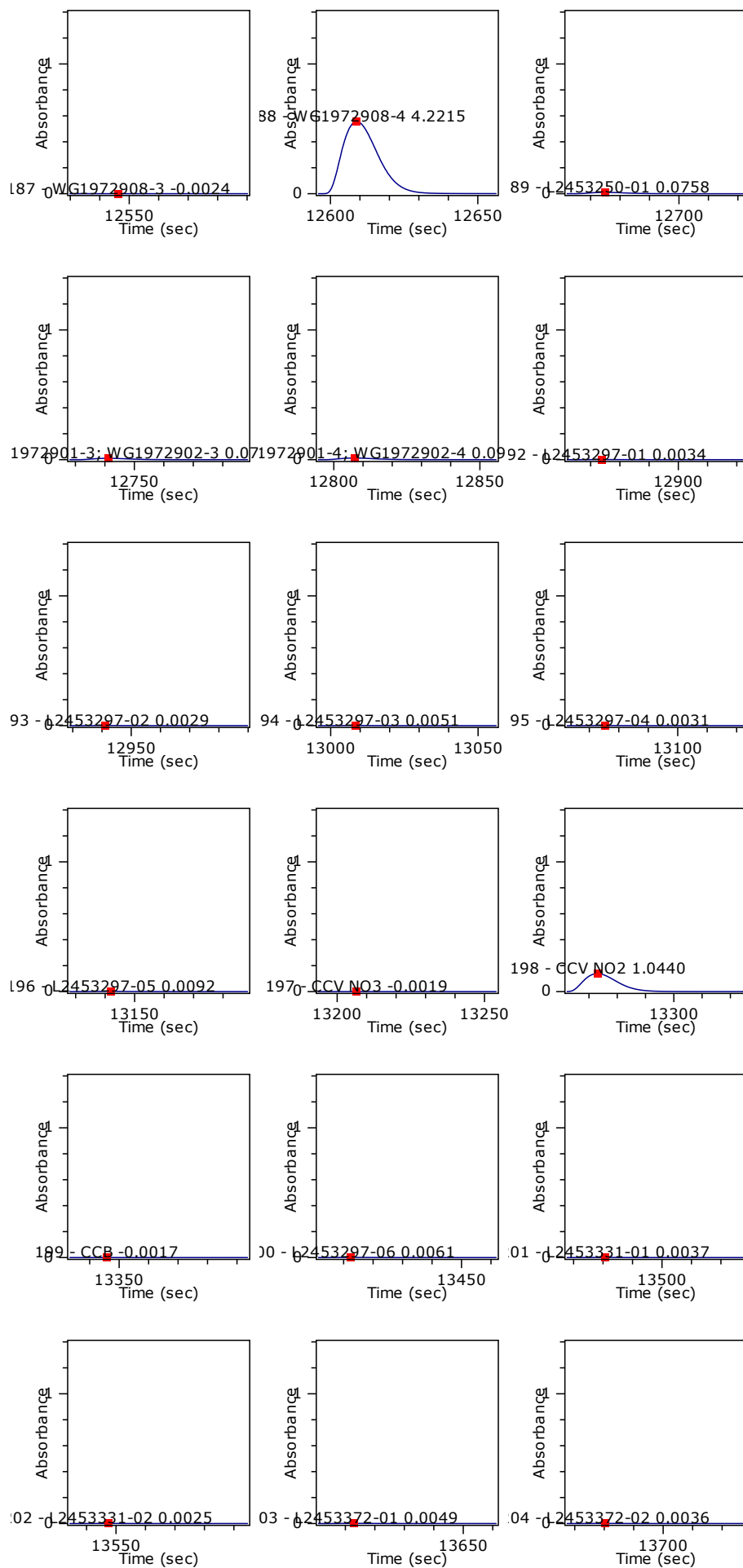


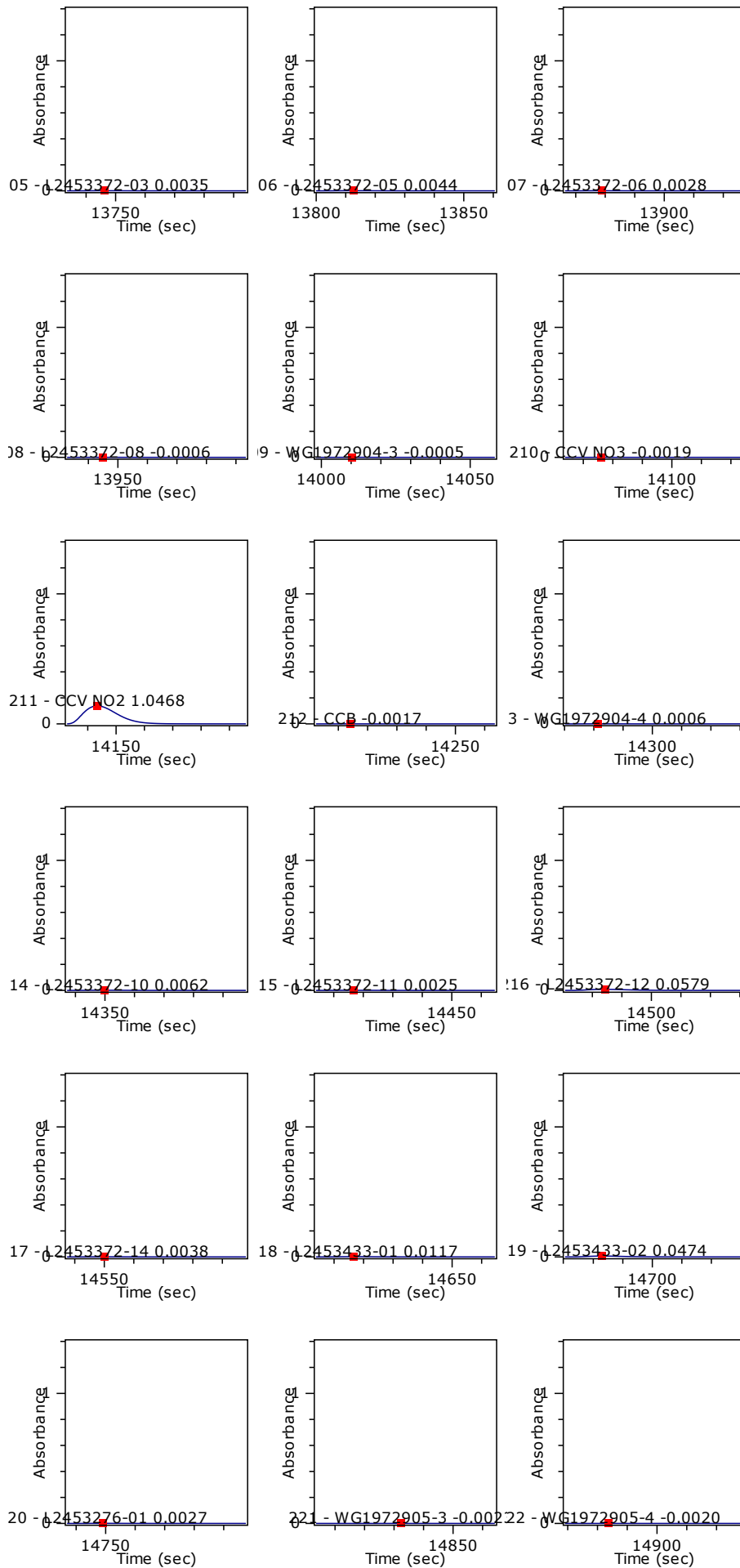


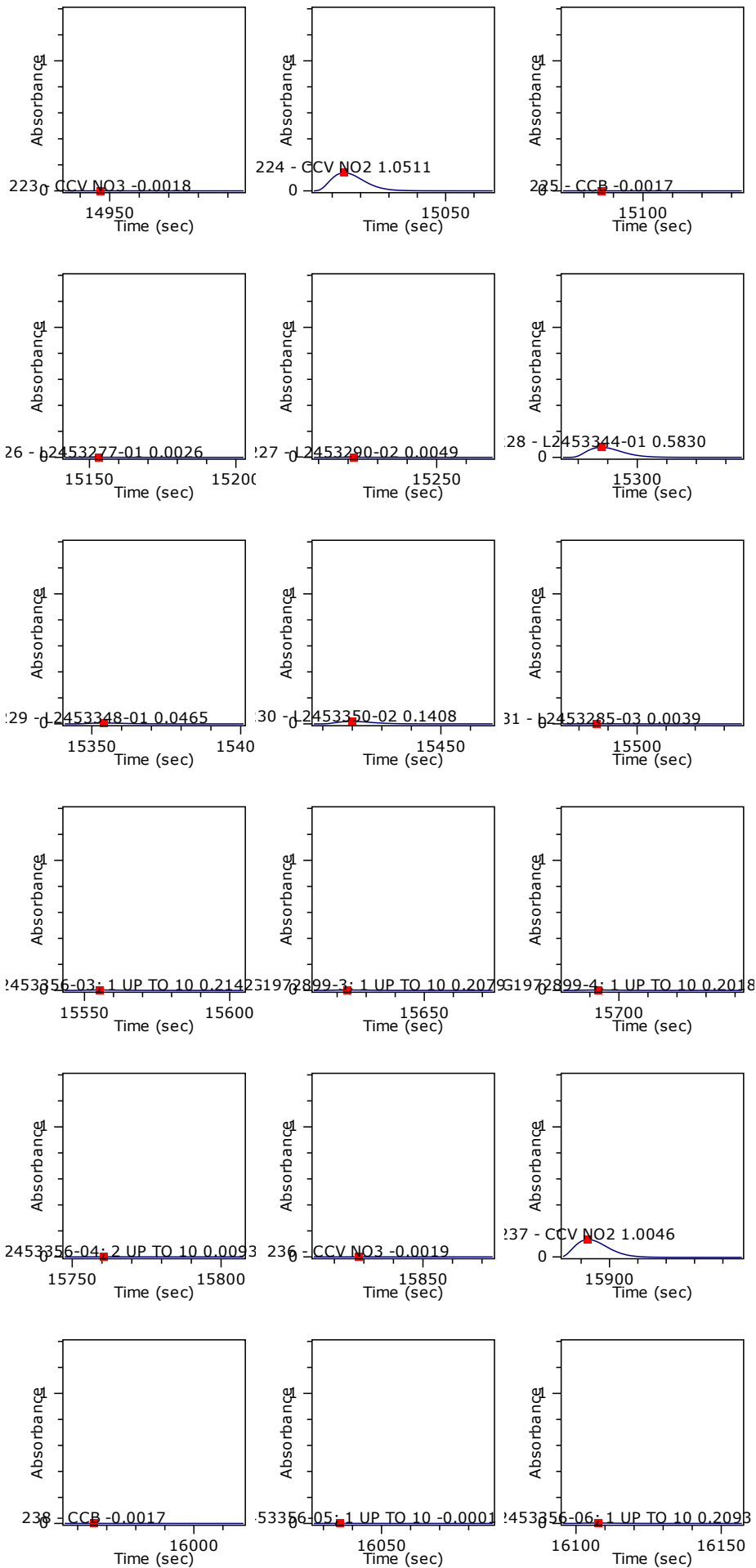


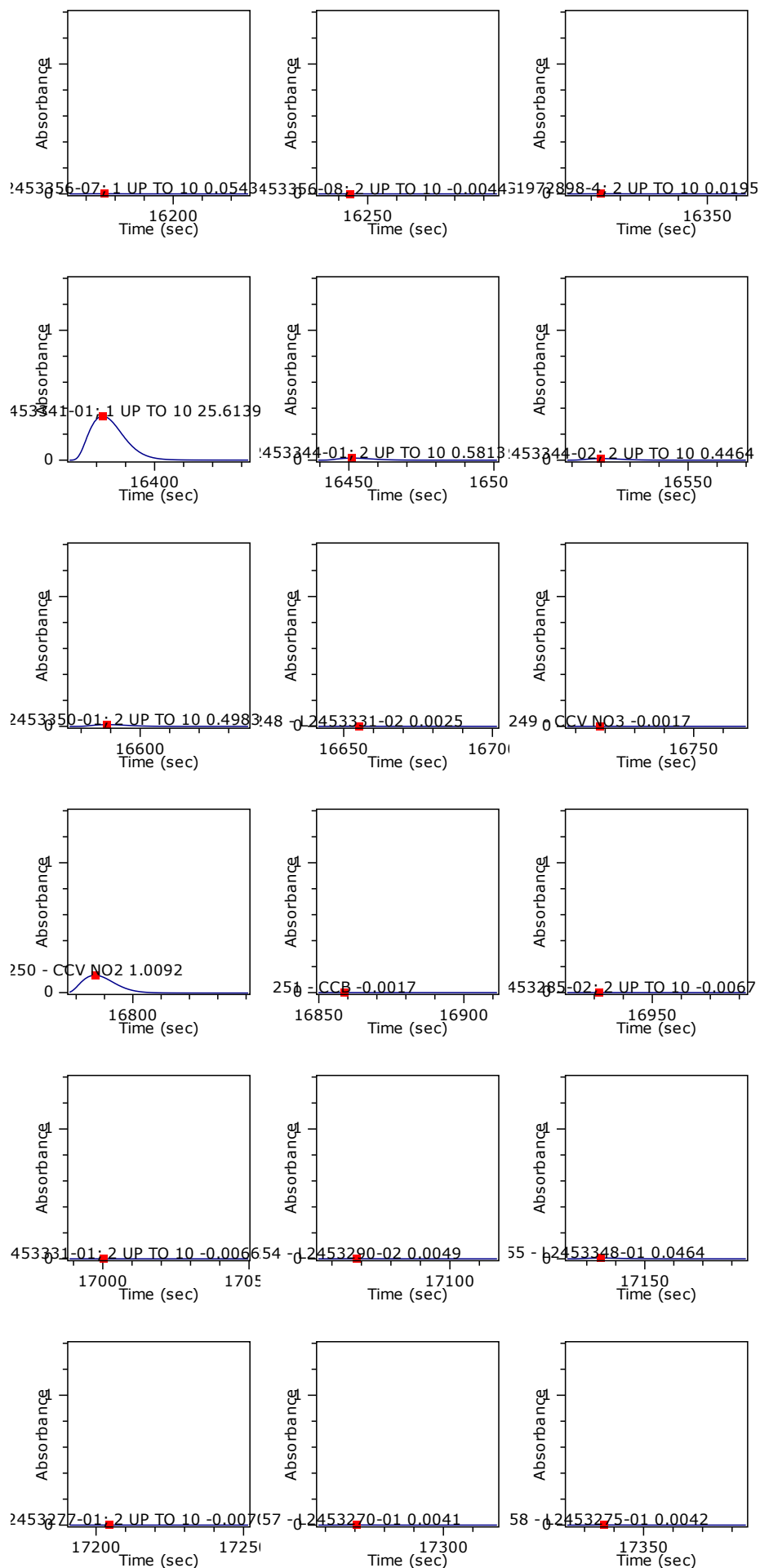


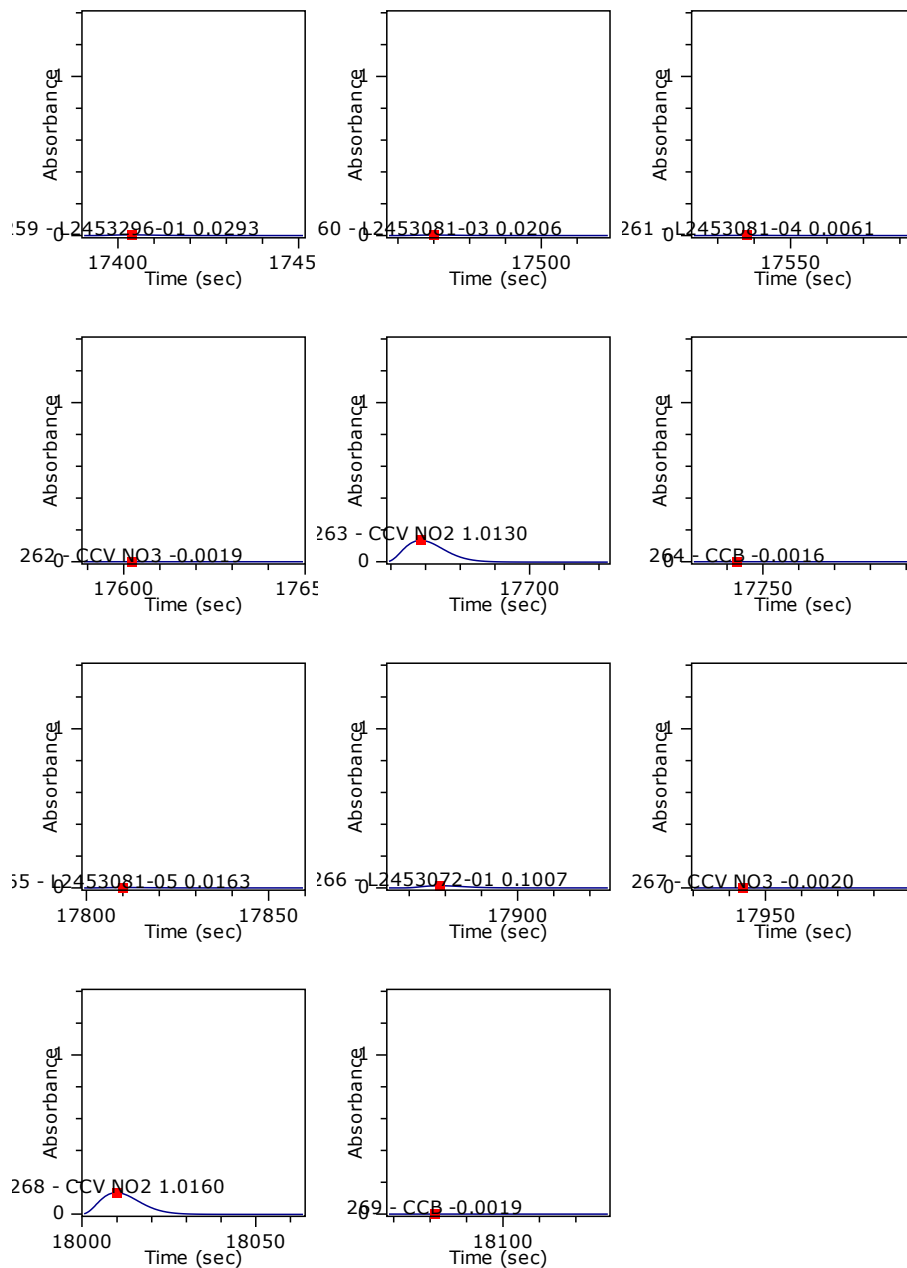












Data Processing Parameters:

Channel: 1-NOx

Response parameter	Peak Height
Filter Type	None
Filter Window	3
Enable Peak Window	False
Peak Window Start	0
Peak Window Stop	0
Enable Baseline Correction	False
Enable 2 Point Correction	False
Baseline Start	0
Baseline Stop	0
Point 2 Baseline Start	0
Point 2 Baseline Stop	0
Background Correction	Single Wavelength
Ref Wavelength 1	600
Ref Wavelength 2	0

Channel: 2-NO2

Response parameter	Peak Height
Filter Type	None
Filter Window	3
Enable Peak Window	False
Peak Window Start	0
Peak Window Stop	0
Enable Baseline Correction	False
Enable 2 Point Correction	False
Baseline Start	0
Baseline Stop	0
Point 2 Baseline Start	0
Point 2 Baseline Stop	0
Background Correction	Single Wavelength
Ref Wavelength 1	600
Ref Wavelength 2	0

Method Log:

```
FIAsoft FIAsoft v3.1.10

FIAlyzer Settings
-----
FIAlab1 Serial Number: FIA31428
FIAlab2 Serial Number: FIA31429
Pump: Connected on COM8

Spectrometer Settings
Spectrometer1
-----
Spectrometer Type: tec5
Integration Time: 34.6
Bandwidth: 2
Data Acq Rate: 2
Use Full Spectrum: False
    |--- Low: 500nm
    |--- High: 650nm
Reduce to Boxcar: True

Spectrometer2
-----
Spectrometer Type: tec5
Integration Time: 2.9
Bandwidth: 2
Data Acq Rate: 2
Use Full Spectrum: False
    |--- Low: 500nm
    |--- High: 650nm
Reduce to Boxcar: True

Start Time
-----
2024-09-18T03:33:20

Method
-----
' Method Script for NOx-NO2

Autosave Data C:\FIALab\Autosave Data\DateTime
FIALab Injection Valve Sample Load
Message Cadmium Column on for NOx
FIALab Peristaltic Pump Clockwise(%) 55

Autosampler Wash
Delay (sec) 2
Next Sample
Delay (sec) 35 'StartDelay2 - Controls initial sample introduction.
```


FIALab1 Injection Valve Sample Inject
Autosampler Probe Up
Delay (sec) 2
Autosampler Position (#) Rinse
FIALab2 Injection Valve Sample Inject
Delay (sec) 15 'StartDelay3 - Should be set equal to LoopDelay3

Autosampler Probe Up
Delay (sec) 5 'StartDelay4 - Should be set equal to LoopDelay4

Loop Start

Analyte New Sample
Delay (sec) 1
Next Sample
Autosampler Probe Force Down

Spectrometer Reference Scan
Spectrometer Absorbance Scanning

Delay (sec) 3 ' LoopDelay1 - Controls sample transit & loop empty. Controls back baseline.

FIALab Injection Valve Sample Load

Delay (sec) 35 ' LoopDelay2 - Controls sample transit & loop fill. Controls back baseline.

FIALab1 Injection Valve Sample Inject
Autosampler Probe Up
Delay (sec) 5
Autosampler Position (#) Rinse
FIALab2 Injection Valve Sample Inject

Delay (sec) 10 ' LoopDelay3 - Controls loop empty & probe rinse time. Inverse controls front baseline.

Autosampler Probe Up

Delay (sec) 3 ' LoopDelay4 - Controls loop empty. Inverse controls front baseline.

Spectrometer Stop Scanning

Loop End

Autosampler Position (#) Rinse
Delay (sec) 20
Autosampler Probe Up
Delay (sec) 30
FIALab Peristaltic Pump Clockwise(%) 5
Autoexport Report C:\FIALab\autoreport\NOxNO2\DateTime
Message Run is Complete

Method File Location: C:\FIALab\FIALab User Files\Methods\Method_NOx+NO2.fia

Quality Control

Form 5a Matrix Spike

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: NA	Matrix	: WATER
Lab Sample ID	: L2453356-03		
Matrix Spike	: WG1972899-4	MS Analysis Date	: 09/18/24 07:54
Matrix Spike Dup	:	MSD Analysis Date	:

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Nitrogen, Nitrate	70.	4	72.	50 Q					83-113	6

Form 5a Matrix Spike

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01		
Matrix Spike	: WG1972899-6	MS Analysis Date	: 09/18/24 05:06
Matrix Spike Dup	:	MSD Analysis Date	:

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Nitrogen, Nitrate	0.93	4	5.0	102					83-113	6

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: NA	Matrix	: WATER
Lab Sample ID	: NA	Analysis Date	: 09/18/24 07:52
Dup Sample ID	: WG1972899-3	DUP Analysis Date	: 09/18/24 07:53

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Nitrogen, Nitrate	70	70.	0	6

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/18/24 05:01
Dup Sample ID	: WG1972899-5	DUP Analysis Date	: 09/18/24 05:02

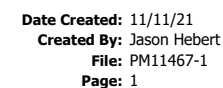
Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Nitrogen, Nitrate	0.93	0.93	0	6

Form 7

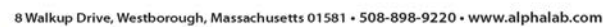
Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : NA Lab Sample ID : WG1972899-2 Dup Sample ID :	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER LCS Analysis Date : 09/18/24 04:27 LCSD Analysis Date :

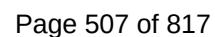
Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Nitrogen, Nitrate	5.00	5.10	102.					90-110	6

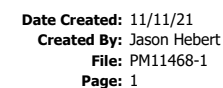
[illegible]

Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

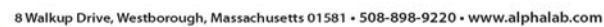


Westborough, MA • Mansfield, MA • Bangor, ME • Portsmouth, NH • Mahwah, NJ • Albany, NY • Buffalo, NY • Holmes, PA

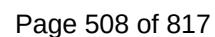


[illegible]

Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



Westborough, MA • Mansfield, MA • Bangor, ME • Portsmouth, NH • Mahwah, NJ • Albany, NY • Buffalo, NY • Holmes, PA





Calculations of Nitrogen, Nitrate

Aqueous Samples:

Compute sample N in NO₃ concentration by comparing sample peak areas with standard curve, as determined by the Lachat instrument software.

Calculate results by using reading on Channel 1 (NO₃+NO₂) and Channel 2 (NO₂)

$$\text{NO}_3 \text{ mg/L} = (\text{NO}_3 + \text{NO}_2) \text{ mg/L} - (\text{NO}_2) \text{ mg/L}$$

To compute final results for aqueous samples, multiply the direct reading by the dilution factor (also done using software)

$$(\text{NO}_3)\text{-N mg/L} = \text{mg/L direct reading} \times \text{dilution factor}$$

Calculations of Nitrogen, Nitrite

Aqueous Samples:

Compute sample N in NO₂ concentration by comparing sample peak areas with standard curve, as determined by the Lachat instrument software.

Calculate results by using reading on Channel 2 (NO₂)

To compute final results for aqueous samples, multiply the direct reading by the dilution factor (also done using software)

$$(\text{NO}_2)\text{-N mg/L} = \text{mg/L direct reading} \times \text{dilution factor}$$

Sequence Logs

Date:
091824

Initials:
KAF

Syringe Lot:
Filter Lot:

Syringe Lot: 20230620
Filter Lot: 18048470A

Injection #

Rack #

Sample ID:

Comments:

19	RA1	ICV NO3 5
20	RA2	ICV NO2 5
21	RA3	ICV NO3 0.5
22	RA4	ICV NO2 0.5
23	RA5	ICB
X	RA6	5X DILUTER CHECK
24	RA7	BLANK NO3
25	RA8	LCS NO3
26	RA9	BLANK NO2
27	RA10	LCS NO2
31	RA11	WG1972890-1; NO2
32	RA12	WG1972890-2; NO2
33	RA13	WG1972893-1; NO2
34	RA14	WG1972893-2; NO2
35	RA15	WG1972894-1; NO2
36	RA16	WG1972894-2; NO2
37	RA17	WG1972896/908-1; NO2
38	RA18	WG1972896/908-2; NO2
39	RA19	WG1972897-1; NO3
40	RA20	WG1972897-2; NO3
44	RA21	WG1972898-1; NO3
45	RA22	WG1972898-2; NO3
46	RA23	WG1972899-1; NO3
47	RA24	WG1972899-2; NO3
48	RA25	WG1972901/902-1; NO3
49	RA26	WG1972901/902-2; NO3
50	RA27	WG1972903/907-1; NO3
51	RA28	WG1972903/907-2; NO3
52	RA29	WG1972904-1; NO3
53	RA30	WG1972904-2; NO3
57	RA31	WG1972905/906-1; NO3
58	RA32	WG1972905/906-2; NO3
59	RA33	L2453136-01
60	RA34	WG1972903-3; NO3
61	RA35	WG1972903-4; NO3
62	RA36	WG1972896-3; NO2
63	RA37	WG1972896-4; NO2
64	RA38	L2453136-02
65	RA39	L2453136-03
66	RA40	L2453136-04
70	RA41	L2453136-05
71	RA42	L2453136-06
72	RA43	L2453136-07

Buffer: NO3NO2_091324_BUFFER
Color: NO3NO2_091824_COLOR
NO3 MS: NO3_082924_200PPM_CAL
NO2 MS: NO2_082724_200PPM_CAL
ICV NO3 5: NO3_091824_5PPM_ICV
ICV NO2 5: NO2_091224_5PPM_ICV
ICV NO3 0.5: NO3_091824_0.5PPM_ICV
ICV NO2 0.5: NO2_091824_0.5PPM_ICV

OOH

DW

GOING OOH

FIELD BLANK

Injection #	Rack #	Sample ID:	Comments:
73	RA44	L2453383-01	
74	RA45	L2453439-01	
75	RA46	WG1972907-3; CNO3	
76	RA47	WG1972907-4; CNO3	
77	RA48	L2453439-02	
78	RA49	L2453058-01	
79	RA50	WG1972899-5; NO3	
83	RA51	WG1972899-6; NO3	
84	RA52	L2453058-02	
85	RA53	L2453058-03	
86; 266	RA54	L2453072-01	
87	RA55	L2453072-02	
88	RA56	L2453072-05	
89	RA57	L2453072-06	
90	RA58	L2453072-07	
91	RA59	L2453081-01	
92	RA60	L2453081-02	
96	RA61	L2453356-03	
97	RA62	WG1972899-3; NO3	
98	RA63	WG1972899-4; NO3	
99	RA64	WG1972894-3; NO2	
100	RA65	WG1972894-4; NO2	
101	RA66	L2453356-04	
102	RA67	L2453356-05	
103	RA68	L2453356-06	
104	RA69	L2453356-07	
105	RA70	L2453356-08	
109	RA71	L2453356-09	
110; 227	RA72	L2453290-01	
111	RA73	WG1972898-3; NO3	
112	RA74	WG1972898-4; NO3	
113	RA75	WG1972893-3; NO2	
114	RA76	WG1972893-4; NO2	
115; 254	RA77	L2453290-02	
116	RA78	L2453290-03	
117	RA79	L2453290-04	
118	RA80	L2453293-01	
122	RA81	WG1972898-5; NO3	
123	RA82	WG1972898-6; NO3	
124	RA83	WG1972893-5; NO2	
125	RA84	WG1972893-6; NO2	
126	RA85	L2453293-02	
127	RA86	L2453293-03	
128	RA87	L2453298-01	
129	RA88	L2453298-02	
130	RA89	L2453303-02	

Injection #	Rack #	Sample ID:	Comments:
131	RA90	L2453306-01	
135	RB1	L2453310-01	
136	RB2	L2453312-01	
137	RB3	L2453341-01	
138; 228	RB4	L2453344-01	
139	RB5	L2453344-02	
140; 229; 255	RB6	L2453348-01	
141	RB7	L2453350-01	
142; 230	RB8	L2453350-02	
143	RB9	L2453351-02	
144	RB10	L2453116-01	
148	RB11	WG1972897-3; NO3	
149	RB12	WG1972897-4; NO3	
150	RB13	WG1972890-3; NO2	
151	RB14	WG1972890-4; NO2	
152	RB15	L2453118-01	
153	RB16	WG1972897-5; NO3	
154	RB17	WG1972897-6; NO3	
155	RB18	WG1972890-5; NO2	
156	RB19	WG1972890-6; NO2	
157	RB20	L2453261-01	
161	RB21	L2453261-02	
162	RB22	L2453274-01	
163	RB23	L2453274-02	
164	RB24	L2453274-03	
165	RB25	L2453274-04	
166	RB26	L2453274-05	
167	RB27	L2453274-06	
168	RB28	L2453274-07	
169	RB29	L2453274-08	
170	RB30	L2453279-01	
174	RB31	L2453279-02	
175	RB32	L2453279-03	
176	RB33	L2453279-04	
177	RB34	L2453285-01	
178	RB35	L2453285-02	
179; 231	RB36	L2453285-03	
180	RB37	L2453285-04	
181	RB38	L2453397-01	
182	RB39	WG1972906-3; NO3	
183	RB40	WG1972906-4; NO3	
187	RB41	WG1972908-3; NO2	
188	RB42	WG1972908-4; NO2	
189	RB43	L2453250-01	
190	RB44	WG1972901/902-3; NO3	
191	RB45	WG1972901/902-4; NO3	

Injection #	Rack #	Sample ID:	Comments:
192	RB46	L2453297-01	
193	RB47	L2453297-02	
194	RB48	L2453297-03	
195	RB49	L2453297-04	
196	RB50	L2453297-05	
200	RB51	L2453297-06	
201	RB52	L2453331-01	
202; 248	RB53	L2453331-02	
203	RB54	L2453372-01	
204	RB55	L2453372-02	
205	RB56	L2453372-03	
206	RB57	L2453372-05	
207	RB58	L2453372-06	
208	RB59	L2453372-08	
209	RB60	WG1972904-3; NO3	
213	RB61	WG1972904-4; NO3	
214	RB62	L2453372-10	
215	RB63	L2453372-11	
216	RB64	L2453372-12	
217	RB65	L2453372-14	
218	RB66	L2453433-01	
219	RB67	L2453433-02	
220	RB68	L2453276-01	
221	RB69	WG1972905-3; NO3	
222	RB70	WG1972905-4; NO3	
226	RB71	L2453277-01	
257	RB72	L2453270-01A	
258	RB73	L2453275-01A	
259	RB74	L2453296-01A	
260	RB75	L2453081-03G	
261	RB76	L2453081-04G	
265	RB77	L2453081-05G	

Injection #	Rack #	Sample ID:	Comments:
232	RD1	L2453356-03	
233	RD2	WG1972899-3	
234	RD3	WG1972899-4	
235	RD4	L2453356-04	
239	RD5	L2453356-05	
240	RD6	L2453356-06	
241	RD7	L2453356-07	
242	RD8	L2453356-08	
243	RD9	WG1972898-4	
244	RD10	L2453341-01	
245	RD11	L2453344-01	
246	RD12	L2453344-02	
247	RD13	L2453350-01	
252	RD14	L2453285-02	
253	RD15	L2453331-01	
256	RD16	L2453277-01	

Chemical Oxygen Demand Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 11:54
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,410.4	Analyst	: CVN
Lab File ID	: WG1973587.csv	Instrument ID	: GENSYS10VI
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
COD	Chemical Oxygen Demand	11.	10	2.7	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 11:54
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,410.4	Analyst	: CVN
Lab File ID	: WG1973587.csv	Instrument ID	: GENSY10VI
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
COD	Chemical Oxygen Demand	ND	10	2.7	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 11:55
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,410.4	Analyst	: CVN
Lab File ID	: WG1973587.csv	Instrument ID	: GENSY10VI
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
COD	Chemical Oxygen Demand	ND	10	2.7	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973587-1	Date Collected	: NA
Client ID	: WG1973587-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/19/24 11:52
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,410.4	Analyst	: CVN
Lab File ID	: WG1973587.csv	Instrument ID	: GENSY10VI
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
COD	Chemical Oxygen Demand	ND	10	2.7	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973587-4	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/19/24 11:56
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,410.4	Analyst	: CVN
Lab File ID	: WG1973587.csv	Instrument ID	: GENSY10VI
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/19/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
COD	Chemical Oxygen Demand	11.	10	2.7	



Sample Raw Data

ALPHA ANALYTICAL
WET CHEMISTRY DEPARTMENT
CHEMICAL OXYGEN DEMAND

Last Change 3/17/16 JPL

File COD-LOW.xlt

SOP No.: 07-16

Product: COD-410-LOW

Curve Calibration Date : 7/23/2024

Analysis: COD-Low

Curve Identifier: 072324 (env exp LOW tubes only sř spec 3

Method: EPA 410.4

Analyte: Chemical Oxygen Demand,

Instrument: GENSYS10vis

Prep Date/Time: 9/19/24 9:08 9/19/24 11:08

Wavelength: 620 nm (High)

Technician: CVN

Spike Volume(ml): 0.1

Work group: WG1973587

Spike Concentration(mg/l): 1000

RDL: 10 mg/l

COD Reactor Temp (*C): 150

COD Reactor ID: E

Mean signal			Calibration Curve		Reagents/Media Information	
Standard	(pk area)	Dilution	Volume: 2.0 mls		Material	Lot No.
ppm	abs					
0	0.000	1.0	Slope	y-intercept		
5	0.004	1.0	0.000434	0.001220	High LCS/ICV: COD-091824-50W	
10	0.006	1.0			Low LCS: COD-091824-20W	
20	0.010	1.0			CCV: COD-091824-50W	
50	0.023	1.0	Correlation Coefficient		MS: COD-091824-1000C	
100	0.045	1.0	0.999567			
125	0.055	1.0			COD Tubes: R-4172	

Sample					FINAL				
Time	Date	Sample number	Volume (ml)	Range (Hi or Low)	Absorbance	RESULT (mg/l)	Dilution Factor	RESULT (mg/l)	Recovery %
11:52	9/19/2024	Blank	2	Low	0.001	-0.5	1	0.00	100
11:52	9/19/2024	20 ppm	2	Low	0.010	20.3	1	20.26	
11:52	9/19/2024	50 ppm	2	Low	0.023	50.2	1	50.21	
11:53	9/19/2024	L2451977-01	2	Low	0.008	15.7	1	15.66	100%
11:53	9/19/2024	L2452567-16	2	Low	0.012	24.9	10	248.71	
11:53	9/19/2024	L2452567-17	2	Low	0.012	24.9	1	24.87	
11:54	9/19/2024	L2452567-18	2	Low	0.006	11.0	1	11.05	
11:54	9/19/2024	L2452567-19	2	Low	0.032	70.9	1	70.94	
11:54	9/19/2024	L2453058-01	2	Low	0.006	11.0	1	11.05	
11:54	9/19/2024	L2453058-02	2	Low	0.000	-2.8	1	0.00	
11:55	9/19/2024	L2453058-03	2	Low	-0.002	-7.4	1	0.00	
11:55	9/19/2024	CCV	2	Low	0.023	50.2	1	50.21	
11:55	9/19/2024	CCB	2	Low	0.000	-2.8	1	0.00	
11:55	9/19/2024	L2453529-01	2	Low	0.002	1.8	1	1.84	100%
11:56	9/19/2024	L2453530-01	2	Low	0.005	8.7	1	8.75	
11:57	9/19/2024	CCV	2	Low	0.023	50.2	1	50.21	
11:57	9/19/2024	CCB	2	Low	0.000	-2.8	1	0.00	
			2	Low			1		
			2	Low			1		
			2	Low			1		
			2	Low			1		
			2	Low			1		
			2	Low			1		
11:52	9/19/2024	WG1973587-1	2	Low	0.001	-0.5	1	0.00	L2453058-01
11:56	9/19/2024	WG1973587-4	2	Low	0.006	11.0	1	11.05	
		Sample number	sample volume	Sample Result mg/l	Absorbance	Dilution Factor	spike conc. mg/l	Spike Result mg/l	Recovery %
11:56	9/19/2024	WG1973587-3	2.1	11.050	0.025	1	47.6	55	92
11:52	9/19/2024	WG1973587-2	2	0.023			50	50	100

COMMENTS & OBSERVATIONS	SAMPLE RESULTS
	Blank
	20 ppm
	50 ppm
	L2451977-01
MTX; 0.2 ML UP TO 2 ML	L2452567-16
	L2452567-17
	L2452567-18
	L2452567-19
	L2453058-01
	L2453058-02
	L2453058-03
	CCV
	CCB
	L2453529-01
	L2453530-01
	CCV
	CCB
	0
	0
	0
	0
	0
	0
	0
	0
BLANK	WG1973587-1
DUP	WG1973587-4

L2453058-01	WG1973587-3
LCS	WG1973587-2

Quality Control

Form 5a Matrix Spike

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01		
Matrix Spike	: WG1973587-3	MS Analysis Date	: 09/19/24 11:56
Matrix Spike Dup	:	MSD Analysis Date	:

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Chemical Oxygen Demand	11.	47.6	55.	92					90-110	20

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/19/24 11:54
Dup Sample ID	: WG1973587-4	DUP Analysis Date	: 09/19/24 11:56

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Chemical Oxygen Demand	11.	11.	0	20

Form 7

Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : NA Lab Sample ID : WG1973587-2 Dup Sample ID :	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER LCS Analysis Date : 09/19/24 11:52 LCSD Analysis Date :

Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Chemical Oxygen Demand	50.0	50.0	100.					90-110	20



Date Created: 11/11/21
Created By: Jason Hebert
File: PM11467-1
Page: 1

WETCHEM (WATER)

[illegible]

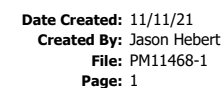
Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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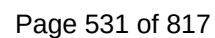


[illegible]

Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Calculations of COD

Aqueous samples:

Calculate the concentration value of the sample directly from the standard curve.

$$\text{COD, mg O}_2/\text{L} = \frac{\text{absorbance} - \text{y-intercept}}{\text{slope}} \times \text{Dilution factor}$$

Biochemical Oxygen Demand / Carbonaceous Biochemical Oxygen Demand Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/22/24 16:32
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5210B	Analyst	: MKT
Lab File ID	: WG1972826_rawdata.pdf	Instrument ID	: BOD11
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/17/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	BOD, 5 day	ND	2.0	NA	U

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/22/24 16:32
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5210B	Analyst	: MKT
Lab File ID	: WG1972826_rawdata.pdf	Instrument ID	: BOD11
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/17/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	BOD, 5 day	ND	2.0	NA	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/22/24 16:32
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5210B	Analyst	: MKT
Lab File ID	: WG1972826_rawdata.pdf	Instrument ID	: BOD11
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/17/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	BOD, 5 day	ND	2.0	NA	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1972826-1	Date Collected	: NA
Client ID	: WG1972826-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/22/24 16:32
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5210B	Analyst	: MKT
Lab File ID	: WG1972826_rawdata.pdf	Instrument ID	: BOD11
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/17/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	BOD, 5 day	ND	2.0	NA	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1972826-3	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/22/24 16:32
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5210B	Analyst	: MKT
Lab File ID	: WG1972826_rawdata.pdf	Instrument ID	: BOD11
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/17/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	BOD, 5 day	ND	2.0	NA	U



Sample Raw Data

SEAL-BOD Final Report

Initial Operator: _____
Start Date: _____
Finish Date: 9/22/2024

Identification	PreDil	Vol	SeedCorr	DateTimeStartDO	DateTimeEndDO	StartDO	EndDO	O2_Deple	ResultBOD	FinalResultBOD	Operator
Dilution Blank 1	1	0	0	9/17/2024 09:16:47 PM	9/22/2024 04:34:52 PM	8.897	8.715	0.182	0.182	0.2	JNT
Dilution Blank 2	1	0	0	9/17/2024 09:16:47 PM	9/22/2024 04:34:52 PM	8.944	8.701	0.243	0.243	0	JNT
Dilution Blank 3	1	0	0	9/17/2024 09:18:33 PM	9/22/2024 04:35:59 PM	8.93	8.813	0.117	0.117	0.1	JNT
SEED	1	0	0	9/17/2024 09:18:33 PM	9/22/2024 04:35:59 PM	8.921	6.412	2.509	50.18	60.2	JNT
SEED	1	0	0	9/17/2024 09:20:37 PM	9/22/2024 04:37:27 PM	8.938	5.903	3.035	50.5833333333		JNT
SEED	1	0	0	9/17/2024 09:20:37 PM	9/22/2024 04:37:27 PM	8.932	3.345	5.587	79.8142857143		JNT
LCS	1	6	0.8	9/17/2024 09:22:06 PM	9/22/2024 04:38:46 PM	8.899	4.265	4.634	191.7	192.9	JNT
LCS	1	6	0.8	9/17/2024 09:22:06 PM	9/22/2024 04:38:46 PM	8.875	4.173	4.702	195.1		JNT
LCS	1	6	0.8	9/17/2024 09:23:31 PM	9/22/2024 04:39:59 PM	8.884	4.243	4.641	192.05		JNT
Method Blank	1	30	0	9/17/2024 09:23:32 PM	9/22/2024 04:39:59 PM	8.884	7.812	1.072	1.072	1	JNT
Method Blank	1	60	0	9/17/2024 09:24:56 PM	9/22/2024 04:41:34 PM	8.817	7.773	1.044	1.044		JNT
Method Blank	1	150	0	9/17/2024 09:24:56 PM	9/22/2024 04:41:34 PM	8.716	7.794	0.922	0.922		JNT
I2453049-01	1	1.5	0.8	9/17/2024 09:26:22 PM	9/22/2024 04:42:52 PM	8.827	7.103	1.724	184.8		MKT
I2453049-01	1	5	0.8	9/17/2024 09:26:22 PM	9/22/2024 04:42:52 PM	8.834	5.168	3.666	171.96	170.3	MKT
I2453049-01	1	10	0.8	9/17/2024 09:27:44 PM	9/22/2024 04:44:32 PM	8.662	2.239	6.423	168.69		MKT
I2453049-01	1	30	0.8	9/17/2024 09:27:44 PM	9/22/2024 04:44:32 PM	8.32	0.557	7.763	69.63		MKT
I2453049-02	2	1.5	0.8	9/17/2024 09:29:32 PM	9/22/2024 04:46:12 PM	8.801	6.289	2.512	684.8	594.3	MKT
I2453049-02	2	5	0.8	9/17/2024 09:29:32 PM	9/22/2024 04:46:13 PM	8.821	3.822	4.999	503.88		MKT
I2453049-02	2	10	0.8	9/17/2024 09:31:13 PM	9/22/2024 04:47:53 PM	8.694	0.902	7.792	419.52		MKT
I2453049-02	2	30	0.8	9/17/2024 09:31:13 PM	9/22/2024 04:47:53 PM	8.503	0.438	8.065	145.3		MKT
I2453049-03	4	1.5	0.8	9/17/2024 09:32:59 PM	9/22/2024 04:49:33 PM	8.783	7.059	1.724	739.2		MKT
I2453049-03	4	5	0.8	9/17/2024 09:33:00 PM	9/22/2024 04:49:33 PM	8.837	5.797	3.04	537.6	506.3	MKT
I2453049-03	4	10	0.8	9/17/2024 09:34:50 PM	9/22/2024 04:51:02 PM	8.77	4.012	4.758	474.96		MKT
I2453049-03	4	30	0.8	9/17/2024 09:34:51 PM	9/22/2024 04:51:02 PM	8.689	0.492	8.197	295.88		MKT
I2453058-01	1	30	0.8	9/17/2024 09:36:40 PM	9/22/2024 04:52:45 PM	8.831	7.848	0.983	1.83	0	MKT
I2453058-01	1	60	0.8	9/17/2024 09:36:40 PM	9/22/2024 04:52:45 PM	8.889	7.794	1.095	1.475		MKT
I2453058-01	1	150	0.8	9/17/2024 09:38:23 PM	9/22/2024 04:53:18 PM	8.852	7.917	0.935	0.27		MKT

SEAL-BOD Final Report

Initial Operator: _____
Start Date: _____
Finish Date: 9/22/2024

Identification	PreDil	Vol	SeedCorr	DateTimeStartDO	DateTimeEndDO	StartDO	EndDO	O2_Deple	ResultBOD	FinalResultBOD	Operator
WG1972826-3	1	30	0.8	9/17/2024 09:38:24 PM	9/22/2024 04:53:18 PM	8.878	7.889	0.989	1.89	0	MKT
WG1972826-3	1	60	0.8	9/17/2024 09:40:04 PM	9/22/2024 04:53:54 PM	8.832	7.978	0.854	0.27		MKT
WG1972826-3	1	150	0.8	9/17/2024 09:40:04 PM	9/22/2024 04:53:55 PM	8.882	7.931	0.951	0.302		MKT
WG1972826-4	1	3	0.8	9/17/2024 09:41:51 PM	9/22/2024 04:54:55 PM	8.805	7.209	1.596	79.6		MKT
WG1972826-4	1	6	0.8	9/17/2024 09:41:51 PM	9/22/2024 04:54:55 PM	8.855	6.403	2.452	82.6	83.9	MKT
WG1972826-4	1	15	0.8	9/17/2024 09:43:41 PM	9/22/2024 04:56:28 PM	8.8	3.737	5.063	85.26		MKT
WG1972826-4	1	30	0.8	9/17/2024 09:43:41 PM	9/22/2024 04:56:28 PM	8.858	0.619	8.239	74.39		MKT
I2453058-02	1	30	0.8	9/17/2024 09:45:31 PM	9/22/2024 04:58:08 PM	8.828	7.966	0.862	0.62	0	MKT
I2453058-02	1	60	0.8	9/17/2024 09:45:31 PM	9/22/2024 04:58:08 PM	8.908	7.993	0.915	0.575		MKT
I2453058-02	1	150	0.8	9/17/2024 09:47:25 PM	9/22/2024 04:58:50 PM	8.985	8.228	0.757	-0.086		MKT
I2453058-03	1	30	0.8	9/17/2024 09:47:26 PM	9/22/2024 04:58:50 PM	8.907	8.039	0.868	0.68	0	MKT
I2453058-03	1	60	0.8	9/17/2024 09:49:00 PM	9/22/2024 04:59:24 PM	8.89	8.167	0.723	-0.385		MKT
I2453058-03	1	150	0.8	9/17/2024 09:49:00 PM	9/22/2024 04:59:24 PM	9.076	8.227	0.849	0.098		MKT
I2453072-05	1	1.5	0.8	9/17/2024 09:50:26 PM	9/22/2024 05:01:14 PM	8.804	8.123	0.681	-23.8	0	MKT
I2453072-05	1	5	0.8	9/17/2024 09:50:26 PM	9/22/2024 05:01:14 PM	8.864	8.059	0.805	0.3		MKT
I2453072-05	1	10	0.8	9/17/2024 09:51:53 PM	9/22/2024 05:01:56 PM	8.781	8.032	0.749	-1.53		MKT
I2453072-05	1	30	0.8	9/17/2024 09:51:53 PM	9/22/2024 05:01:56 PM	8.731	7.734	0.997	1.97		MKT
I2453072-06	1	3	0.8	9/17/2024 09:53:25 PM	9/22/2024 05:02:26 PM	8.808	8.209	0.599	-20.1		MKT
I2453072-06	1	10	0.8	9/17/2024 09:53:25 PM	9/22/2024 05:02:26 PM	8.815	7.993	0.822	0.66		MKT
I2453072-06	1	30	0.8	9/17/2024 09:54:45 PM	9/22/2024 05:03:42 PM	8.611	7.188	1.423	6.23		MKT
I2453072-06	1	75	0.8	9/17/2024 09:54:45 PM	9/22/2024 05:03:42 PM	8.208	4.511	3.697	11.588	11.6	MKT
I2453072-07	1	3	0.8	9/17/2024 09:56:22 PM	9/22/2024 05:04:49 PM	8.812	8.133	0.679	-12.1	0	MKT
I2453072-07	1	10	0.8	9/17/2024 09:56:22 PM	9/22/2024 05:04:49 PM	8.81	7.965	0.845	1.35		MKT
I2453072-07	1	30	0.8	9/17/2024 09:57:53 PM	9/22/2024 05:05:42 PM	8.605	7.858	0.747	-0.53		MKT
I2453072-07	1	75	0.8	9/17/2024 09:57:53 PM	9/22/2024 05:05:42 PM	8.047	7.06	0.987	0.748		MKT
I2453081-01	1	30	0.8	9/17/2024 09:59:20 PM	9/22/2024 05:06:15 PM	8.687	7.986	0.701	-0.99	0	MKT
I2453081-01	1	60	0.8	9/17/2024 09:59:21 PM	9/22/2024 05:06:15 PM	8.449	7.635	0.814	0.07		MKT

SEAL-BOD Final Report

Initial Operator: _____
Start Date: _____
Finish Date: 9/22/2024

Identification	PreDil	Vol	SeedCorr	DateTimeStartDO	DateTimeEndDO	StartDO	EndDO	O2_Deple	ResultBOD	FinalResultBOD	Operator
I2453081-01	1	150	0.8	9/17/2024 10:00:59 PM	9/22/2024 05:07:22 PM	7.643	6.693	0.95	0.3		MKT
I2453081-02	1	30	0.8	9/17/2024 10:00:59 PM	9/22/2024 05:07:22 PM	8.61	7.742	0.868	0.68	0	MKT
I2453081-02	1	60	0.8	9/17/2024 10:03:15 PM	9/22/2024 05:08:25 PM	8.139	7.15	0.989	0.945		MKT
I2453081-02	1	150	0.8	9/17/2024 10:03:15 PM	9/22/2024 05:08:25 PM	6.911	5.422	1.489	1.378		MKT
I2453123-01	2	1.5	0.8	9/17/2024 10:04:58 PM	9/22/2024 05:08:52 PM	8.77	7.573	1.197	158.8		MKT
I2453123-01	2	5	0.8	9/17/2024 10:04:58 PM	9/22/2024 05:08:52 PM	8.792	6.396	2.396	191.52	192.2	MKT
I2453123-01	2	10	0.8	9/17/2024 10:06:50 PM	9/22/2024 05:10:26 PM	8.758	4.743	4.015	192.9		MKT
I2453123-01	2	30	0.8	9/17/2024 10:06:50 PM	9/22/2024 05:10:26 PM	8.612	0.584	8.028	144.56		MKT
I2453123-02	1	20	0.8	9/17/2024 10:08:45 PM	9/22/2024 05:11:58 PM	8.816	7.852	0.964	2.46	0	MKT
I2453123-02	1	60	0.8	9/17/2024 10:08:45 PM	9/22/2024 05:11:58 PM	8.954	7.576	1.378	2.89		MKT
I2453123-02	1	150	0.8	9/17/2024 10:10:35 PM	9/22/2024 05:12:46 PM	9.148	7.364	1.784	1.968		MKT
I2453341-01	1	3	0.8	9/17/2024 10:10:35 PM	9/22/2024 05:12:46 PM	8.849	8.029	0.82	2		MKT
I2453341-01	1	10	0.8	9/17/2024 10:12:12 PM	9/22/2024 05:13:28 PM	8.824	7.941	0.883	2.49		MKT
I2453341-01	1	30	0.8	9/17/2024 10:12:12 PM	9/22/2024 05:13:28 PM	8.887	7.721	1.166	3.66		MKT
I2453341-01	1	75	0.8	9/17/2024 10:13:50 PM	9/22/2024 05:14:29 PM	8.892	6.865	2.027	4.908	4.9	MKT
I2453344-01	1	3	0.8	9/17/2024 10:13:50 PM	9/22/2024 05:14:29 PM	8.86	7.728	1.132	33.2		MKT
I2453344-01	1	10	0.8	9/17/2024 10:15:24 PM	9/22/2024 05:15:45 PM	8.806	6.571	2.235	43.05	42.2	MKT
I2453344-01	1	30	0.8	9/17/2024 10:15:24 PM	9/22/2024 05:15:45 PM	8.715	3.772	4.943	41.43		MKT
I2453344-01	1	75	0.8	9/17/2024 10:17:01 PM	9/22/2024 05:17:34 PM	8.115	0.947	7.168	25.472		MKT
I2453351-01	1	3	0.8	9/17/2024 10:17:02 PM	9/22/2024 05:17:34 PM	8.874	7.913	0.961	16.1		MKT
I2453351-01	1	10	0.8	9/17/2024 10:18:43 PM	9/22/2024 05:19:14 PM	8.791	7.395	1.396	17.88		MKT
I2453351-01	1	30	0.8	9/17/2024 10:18:43 PM	9/22/2024 05:19:14 PM	8.829	6.495	2.334	15.34	16.7	MKT
I2453351-01	1	75	0.8	9/17/2024 10:20:05 PM	9/22/2024 05:20:52 PM	8.52	3.198	5.322	18.088		MKT
I2453351-01	1	150	0.8	9/17/2024 10:20:06 PM	9/22/2024 05:20:53 PM	8.089	0.611	7.478	13.356		MKT
I2453049-04	2	1.5	0.8	9/17/2024 10:21:44 PM	9/22/2024 05:22:33 PM	8.811	7.577	1.234	173.6		MKT
I2453049-04	2	5	0.8	9/17/2024 10:21:44 PM	9/22/2024 05:22:33 PM	8.828	6.259	2.569	212.28	193.8	MKT
I2453049-04	2	10	0.8	9/17/2024 10:23:20 PM	9/22/2024 05:23:53 PM	8.725	5.003	3.722	175.32		MKT

SEAL-BOD Final Report

Initial Operator: _____
Start Date: _____
Finish Date: 9/22/2024

Identification	PreDil	Vol	SeedCorr	DateTimeStartDO	DateTimeEndDO	StartDO	EndDO	O2_Deple	ResultBOD	FinalResultBOD	Operator
I2453049-04	2	30	0.8	9/17/2024 10:23:20 PM	9/22/2024 05:23:53 PM	8.488	0.614	7.874	141.48		MKT
I2453169-01	4	1.5	0.8	9/17/2024 10:25:06 PM	9/22/2024 05:25:08 PM	8.788	6.904	1.884	867.2		MKT
I2453169-01	4	5	0.8	9/17/2024 10:25:06 PM	9/22/2024 05:25:08 PM	8.831	4.958	3.873	737.52	650.9	MKT
I2453169-01	4	10	0.8	9/17/2024 10:26:56 PM	9/22/2024 05:26:48 PM	8.804	3.302	5.502	564.24		MKT
I2453169-01	4	30	0.8	9/17/2024 10:26:56 PM	9/22/2024 05:26:48 PM	8.876	0.502	8.374	302.96		MKT

Quality Control

Form 5a Matrix Spike

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01		
Matrix Spike	: WG1972826-4	MS Analysis Date	: 09/22/24 16:32
Matrix Spike Dup	:	MSD Analysis Date	:

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
BOD, 5 day	ND	100	84	84					50-145	35

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/22/24 16:32
Dup Sample ID	: WG1972826-3	DUP Analysis Date	: 09/22/24 16:32

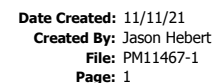
Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
BOD, 5 day	ND	ND	NC	35

Form 7

Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : NA Lab Sample ID : WG1972826-2 Dup Sample ID :	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER LCS Analysis Date : 09/22/24 16:32 LCSD Analysis Date :

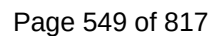
Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
BOD, 5 day	198.	190.	97.					85-115	35

[illegible]

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Calculations of BOD

The BOD Analyst Software will calculate the BOD results. However, the following is an explanation of the manual calculation should it be necessary:

$$\text{BOD}_5, \text{ mg O}_2/\text{L} = \frac{[(D_1 - D_2) - f]}{P}$$

Where:

- D_1 = DO of diluted sample immediately after preparation, mg/L,
- D_2 = DO of diluted sample after 5-day incubation at 20°C, mg/L,
- P = decimal volumetric fraction of sample used,
- F = Average DO depletion for 2mL of seed.

Sample Preparation

Day and Date Tues 9/17/24
Product BOD

Sample ID	Pre Dil X	pH	Cl	Cod Abs	Cod Result	Bod Settings	comments
L2453049-01		7	-	.179	406	1.5, 5, 10, 30	
-02	2			.185	419		
-03	4			.125	283		
058-01				0	0	30, 60, 150	Dup BP100
-01				.001	1		
-03				.001	1		
072-05				.180	408	1.5, 5, 10, 30	
-06				.065	147	3, 10, 30, 75	
-07				.075	169		
081-01				.007	14	30, 60, 150	
-02				.009	19		
123-01	2			.154	349	1.5, 5, 10, 30	
-02				.015	38	20, 60, 150	
341-01				.085	192	3, 10, 30, 75	
344-01				.070	158		
351-01				.045	101		+150ml
049-04	2			.119	269	1.5, 5, 10, 30	
ME 169-01	4			.129	292		
							JRG

Date/Time/Initials IN: 9/17 22:30 JRG Polyseed Lot#: BOD240917SE3 Exp: 9/18
Incubator ID: 3.1 Nutrient Solution Lot#: BOD240917NS1 Exp: 9/20
Date/Time/Initials OUT: 9/22/24 at 16:32 ME Matrix Spike Lot #: BOD240917ST1
WG: WG1972826 + 2840 (ME) LCS Lot #: WC-3471
Comments: D:83 De-Cl/ Sodium Sulfite Solution Lot#: -
Nitrification Inhibitor Lot #: - Exp: -

WG1972826



WG1972840



Total Organic Carbon Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 11:57
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5310C	Analyst	: SMD
Lab File ID	: WG1974132	Instrument ID	: TOCVWP6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-44-0	Total Organic Carbon	0.433	0.500	0.097	J



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 12:17
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5310C	Analyst	: SMD
Lab File ID	: WG1974132	Instrument ID	: TOCVWP6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-44-0	Total Organic Carbon	ND	0.500	0.097	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 12:37
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5310C	Analyst	: SMD
Lab File ID	: WG1974132	Instrument ID	: TOCVWP6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-44-0	Total Organic Carbon	ND	0.500	0.097	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974132-1	Date Collected	: NA
Client ID	: WG1974132-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/20/24 10:29
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5310C	Analyst	: SMD
Lab File ID	: WG1974132	Instrument ID	: TOCVWP6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-44-0	Total Organic Carbon	ND	0.500	0.097	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974132-4	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/20/24 14:04
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5310C	Analyst	: SMD
Lab File ID	: WG1974132	Instrument ID	: TOCVWP6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-44-0	Total Organic Carbon	0.302	0.500	0.097	J



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974132-4	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/20/24 09:41
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5310C	Analyst	: smd
Lab File ID	: wg1974132.csv	Instrument ID	:
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-44-0	Total Organic Carbon	0.300	0.500	0.097	J

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974132-6	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DRDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/20/24 09:41
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,5310C	Analyst	: smd
Lab File ID	: wg1974132.csv	Instrument ID	:
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-44-0	Total Organic Carbon	ND	0.500	0.097	U



Instr. Information

System
Instrument OptionsTOCVwp 6
TOC/ASI/

Cal. Curve

Sample Name:

CURVE

Sample ID:

Cal. Curve:

09202024 TOC6_CURVE.2024_09_20_07_14_54.cal

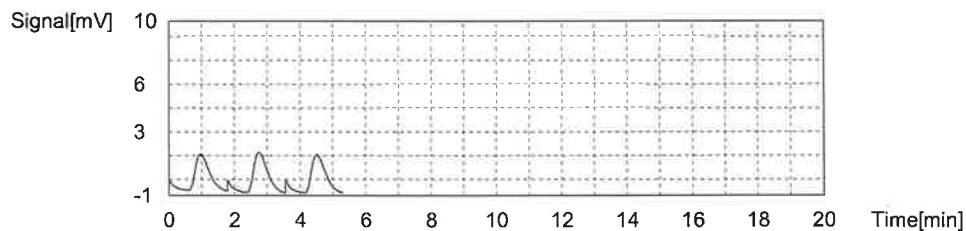
Status

Completed

Type	Anal.
Standard	NPOC

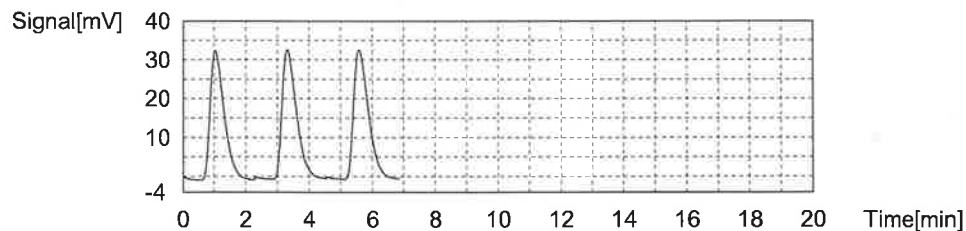
Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.876	2500uL	1	*****		9/20/2024 7:23:17 AM
2	7.492	2500uL	1	*****		9/20/2024 7:28:00 AM
3	7.136	2500uL	1	*****		9/20/2024 7:32:22 AM

Acid Add. 3.000%
Sp. Time 180.0sec
Mean Area 7.168

Conc: 0.5000mg/L

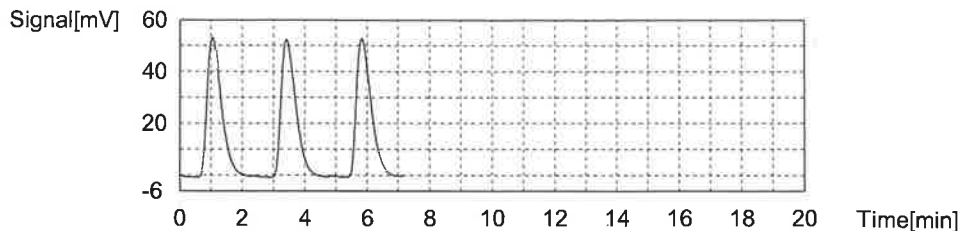
No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	105.2	2500uL	1	*****		9/20/2024 7:43:13 AM
2	107.3	2500uL	1	*****		9/20/2024 7:47:35 AM
3	109.7	2500uL	1	*****		9/20/2024 7:51:58 AM

Acid Add. 3.000%
Sp. Time 180.0sec
Mean Area 107.4

Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	177.3	2500uL	1	*****		9/20/2024 8:02:54 AM
2	178.3	2500uL	1	*****		9/20/2024 8:07:25 AM
3	178.8	2500uL	1	*****		9/20/2024 8:11:52 AM

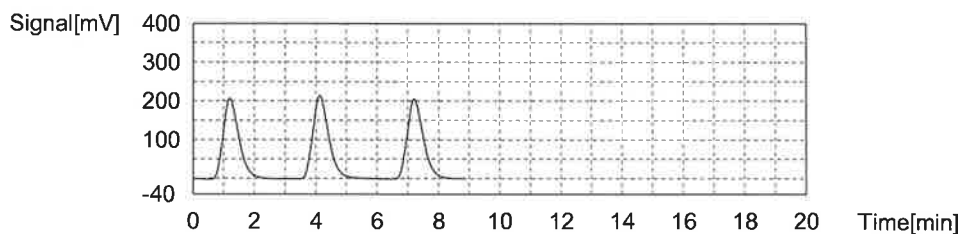
Acid Add. 3.000%
 Sp. Time 180.0sec
 Mean Area 178.1



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	759.8	2500uL	1	*****		9/20/2024 8:23:20 AM
2	804.3	2500uL	1	*****		9/20/2024 8:28:33 AM
3	766.0	2500uL	1	*****		9/20/2024 8:33:39 AM

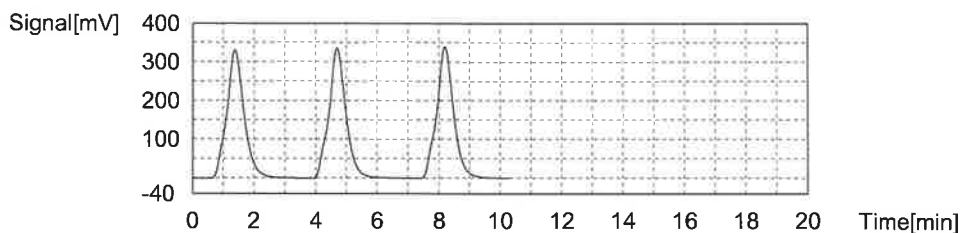
Acid Add. 3.000%
 Sp. Time 180.0sec
 Mean Area 776.7



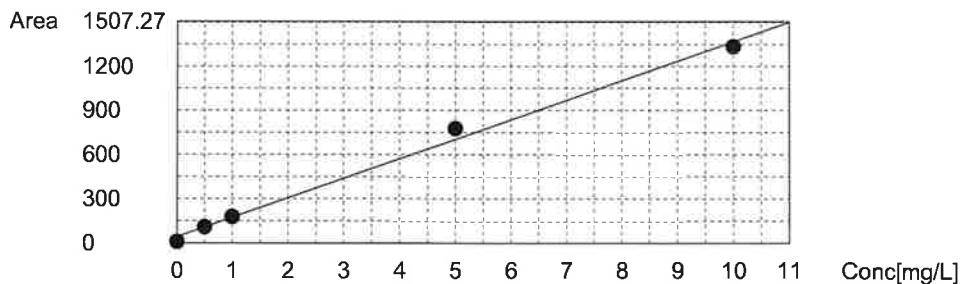
Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1328	2500uL	1	*****		9/20/2024 8:45:31 AM
2	1337	2500uL	1	*****		9/20/2024 8:51:22 AM
3	1340	2500uL	1	*****		9/20/2024 8:56:56 AM

Acid Add. 3.000%
 Sp. Time 180.0sec
 Mean Area 1335



Slope: 132.7 = m
 Intercept 42.83 = y
 r^2 0.9941
 r 0.9971
 Zero Shift No



	$\frac{A}{m}$	$\frac{A-y}{m}$	%
0	7.17	0	-
0.5	107.4	487	97%
1.0	178.1	102	102%
5.0	776.7	552	110%
10.0	1335	974	97%

Sample Raw Data

Instr. Information

System
Instrument OptionsTOCVwp 6
TOC/ASI/

Sample

Sample Name: DI
Sample ID:
Origin: TOC 6 METHOD 4 REPS.met
Status: Completed
Chk. Result

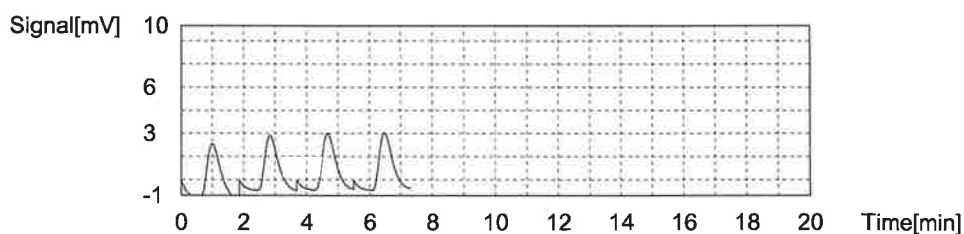
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2112mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.91	-0.2114mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 4:45:06 AM
2	10.89	-0.2116mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 4:50:08 AM
3	10.92	-0.2114mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 4:54:33 AM
4	11.02	-0.2106mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 4:58:56 AM

Mean Area 10.94
Mean Conc. -0.2112mg/L



Sample

Sample Name: DI
Sample ID:
Origin: TOC 6 METHOD 4 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2196mg/L

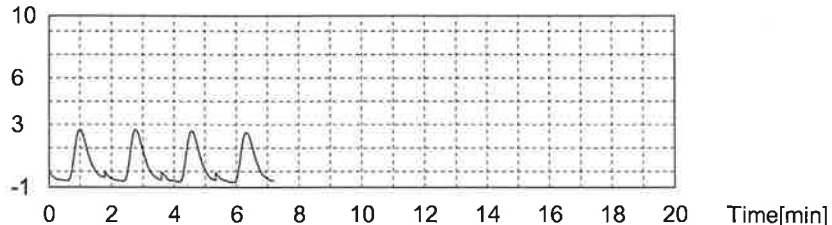
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.708	-0.2204mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 5:09:17 AM
2	9.861	-0.2193mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 5:14:23 AM
3	9.705	-0.2204mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 5:18:46 AM
4	9.995	-0.2183mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 5:23:10 AM

Mean Area 9.817
Mean Conc. -0.2196mg/L

Signal[mV]



Sample

Sample Name: DI
Sample ID:
Origin: TOC 6 METHOD 4 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2203mg/L

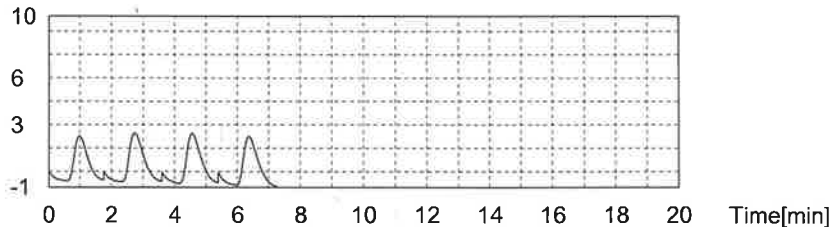
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.579	-0.2289mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 5:33:29 AM
2	9.939	-0.2187mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 5:37:55 AM
3	10.09	-0.2176mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 5:42:18 AM
4	10.31	-0.2159mg/L	2500uL	1		09182024 TOC6 CURVE.2024 09 18	9/20/2024 5:46:41 AM

Mean Area 9.729
Mean Conc. -0.2203mg/L

Signal[mV]



Cal. Curve

Sample Name:

CURVE

Sample ID:

Cal. Curve:

09202024 TOC6_CURVE.2024_09_20_07_14_54.cal

Status

Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.876	2500uL	1	*****		9/20/2024 7:23:17 AM
2	7.492	2500uL	1	*****		9/20/2024 7:28:00 AM
3	7.136	2500uL	1	*****		9/20/2024 7:32:22 AM

Acid Add.

3.000%

Sp. Time

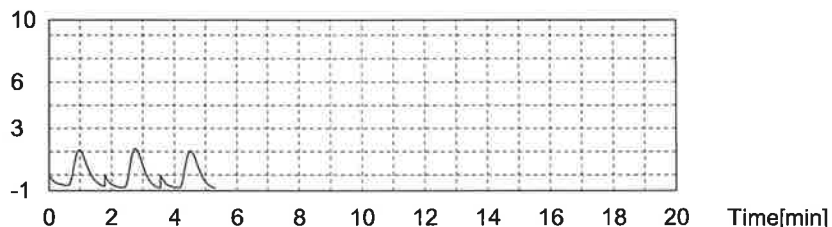
180.0sec

Mean Area

7.168

Signal[mV]

10



Conc: 0.5000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	105.2	2500uL	1	*****		9/20/2024 7:43:13 AM
2	107.3	2500uL	1	*****		9/20/2024 7:47:35 AM
3	109.7	2500uL	1	*****		9/20/2024 7:51:58 AM

Acid Add.

3.000%

Sp. Time

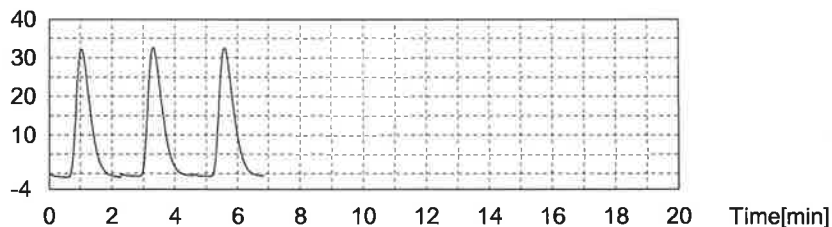
180.0sec

Mean Area

107.4

Signal[mV]

40



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	177.3	2500uL	1	*****		9/20/2024 8:02:54 AM
2	178.3	2500uL	1	*****		9/20/2024 8:07:25 AM
3	178.8	2500uL	1	*****		9/20/2024 8:11:52 AM

Acid Add.

3.000%

Sp. Time

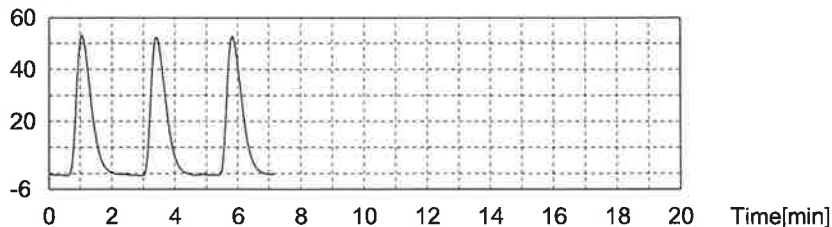
180.0sec

Mean Area

178.1

Signal[mV]

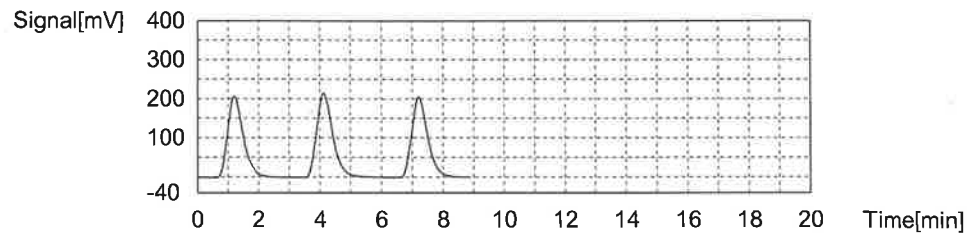
60



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	759.8	2500uL	1	*****		9/20/2024 8:23:20 AM
2	804.3	2500uL	1	*****		9/20/2024 8:28:33 AM
3	766.0	2500uL	1	*****		9/20/2024 8:33:39 AM

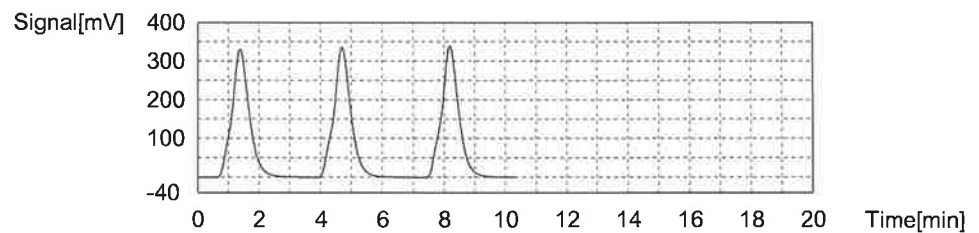
Acid Add. 3.000%
Sp. Time 180.0sec
Mean Area 776.7



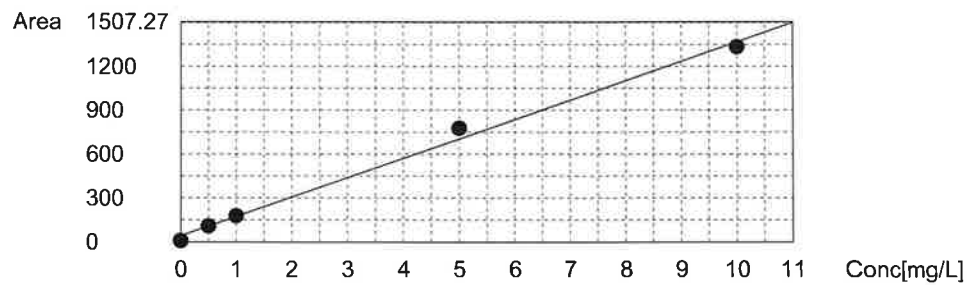
Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1328	2500uL	1	*****		9/20/2024 8:45:31 AM
2	1337	2500uL	1	*****		9/20/2024 8:51:22 AM
3	1340	2500uL	1	*****		9/20/2024 8:56:56 AM

Acid Add. 3.000%
Sp. Time 180.0sec
Mean Area 1335



Slope: 132.7
Intercept 42.83
 r^2 0.9941
 r 0.9971
Zero Shift No



Sample

Sample Name: 10PPM IC CHK
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1985mg/L

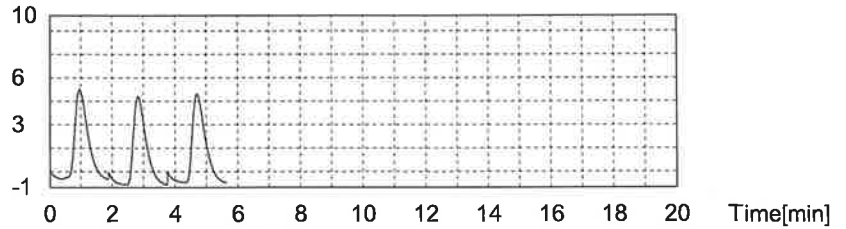
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.43	-0.1989mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:20:40 AM
2	16.39	-0.1992mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:25:44 AM
3	16.63	-0.1974mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:30:02 AM

Mean Area 16.48
Mean Conc. -0.1985mg/L

Signal[mV]



Sample

Sample Name: ICV
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.764mg/L

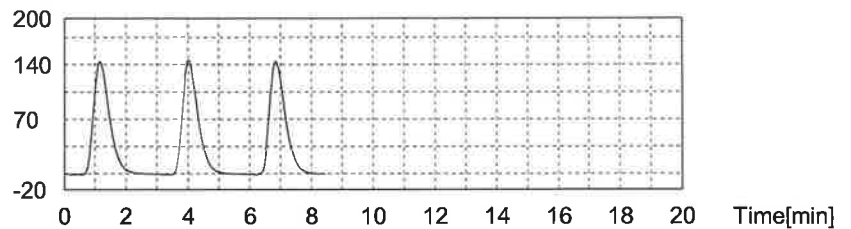
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	540.0	3.745mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:41:28 AM
2	543.3	3.770mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:46:23 AM
3	544.2	3.777mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:51:14 AM

Mean Area 542.5
Mean Conc. 3.764mg/L

Signal[mV]



Sample

Sample Name: ICB
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

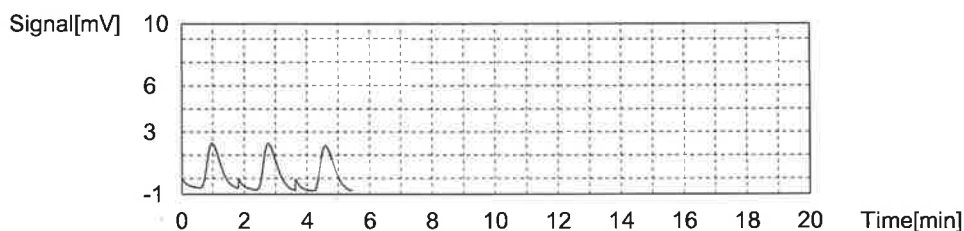
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2541mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.741	-0.2568mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:01:36 AM
2	9.364	-0.2522mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:06:12 AM
3	9.225	-0.2532mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:10:37 AM

Mean Area 9.110
Mean Conc. -0.2541mg/L



Sample

Sample Name: MB
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

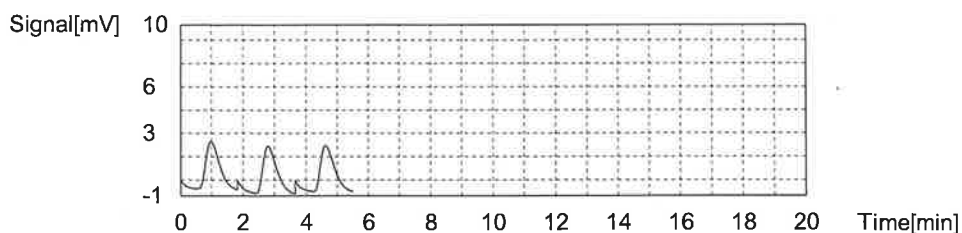
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2518mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.364	-0.2522mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:21:00 AM
2	9.502	-0.2511mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:25:36 AM
3	9.355	-0.2522mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:29:54 AM

Mean Area 9.407
Mean Conc. -0.2518mg/L



Sample

Sample Name: LCS
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

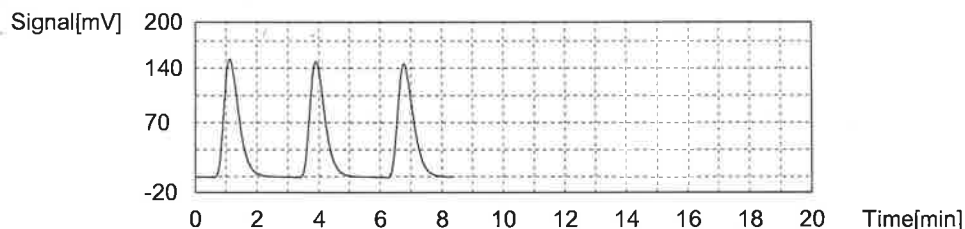
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.756mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	541.8	3.759mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 10:47:26 AM
2	542.5	3.764mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 10:52:24 AM
3	540.1	3.746mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 10:57:15 AM

Mean Area 541.5
Mean Conc. 3.756mg/L



Sample

Sample Name: L2452547-01; 8X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2996mg/L

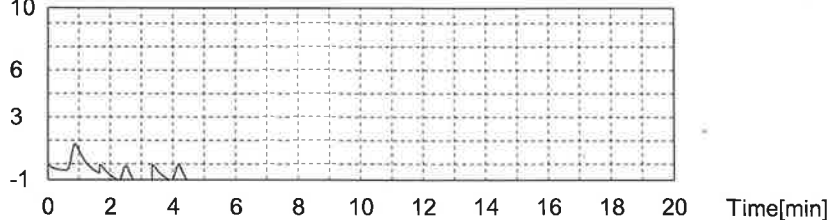
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.459	-0.2891mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:07:28 AM
2	2.277	-0.3055mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:11:48 AM
3	2.450	-0.3042mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:16:05 AM

Mean Area 3.062
Mean Conc. -0.2996mg/L

Signal[mV] 10



Sample

Sample Name: L2452623-01; 4X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.267mg/L

1. Det

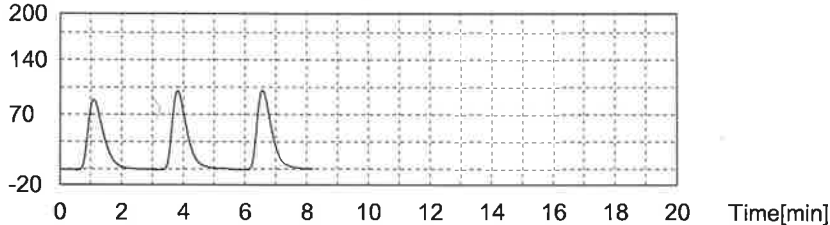
9.068

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	329.5	2.160mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:27:23 AM
2	346.8	2.290mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:32:22 AM
3	354.8	2.350mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:37:11 AM

Mean Area 343.7
Mean Conc. 2.267mg/L

Signal[mV] 200



Sample

Sample Name: L2453058-01
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4333mg/L

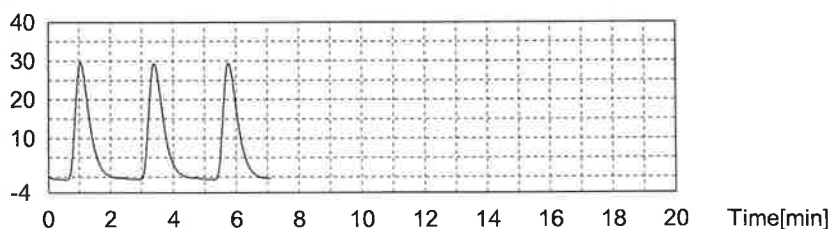
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	99.86	0.4296mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:48:06 AM
2	100.2	0.4322mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:52:34 AM
3	101.0	0.4382mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:57:02 AM

Mean Area 100.4
Mean Conc. 0.4333mg/L

Signal[mV]



Sample

Sample Name: L2453058-02
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

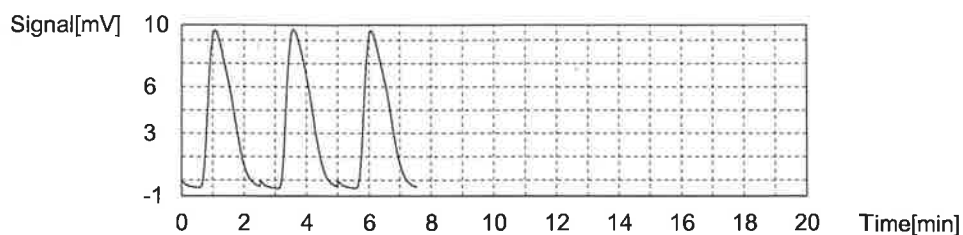
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.07537mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	52.56	0.07326mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 12:08:07 PM
2	53.12	0.07748mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 12:12:41 PM
3	52.84	0.07537mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 12:17:18 PM

Mean Area 52.84
Mean Conc. 0.07537mg/L



Sample

Sample Name: L2453058-03
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status Completed
Chk. Result

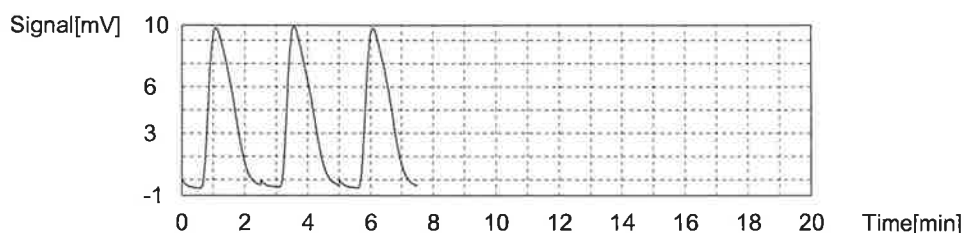
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.08102mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	54.35	0.08675mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 12:28:22 PM
2	53.09	0.07726mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 12:32:58 PM
3	53.33	0.07907mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 12:37:33 PM

Mean Area 53.59
Mean Conc. 0.08102mg/L



Sample

Sample Name: L2452547-01; 2X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status Completed
Chk. Result

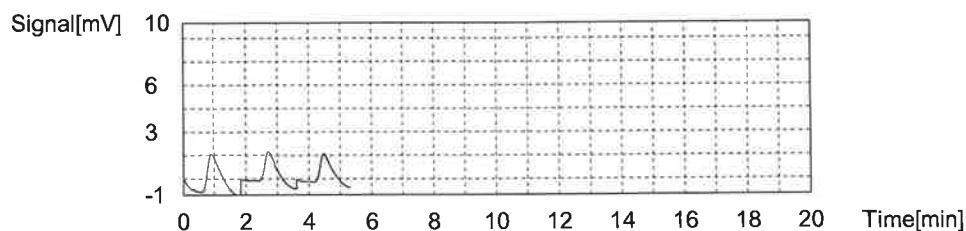
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2776mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.529	-0.2660mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	9/20/2024 1:34:14 PM
2	5.357	-0.2823mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	9/20/2024 1:38:59 PM
3	5.091	-0.2843mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	9/20/2024 1:43:44 PM

Mean Area 5.992
Mean Conc. -0.2776mg/L



Sample

Sample Name: 53058.1 DP
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

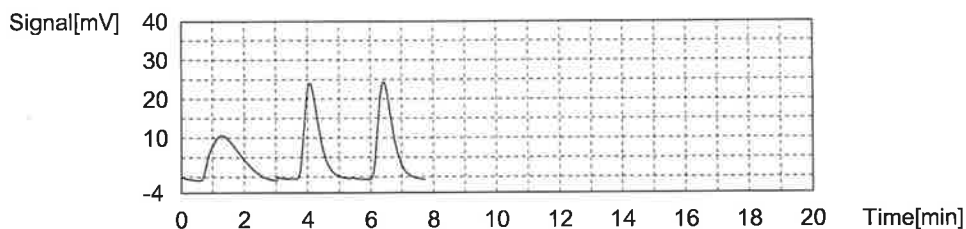
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3023mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	80.29	0.2822mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	9/20/2024 1:55:15 PM
2	83.19	0.3040mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	9/20/2024 1:59:41 PM
3	85.42	0.3208mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	9/20/2024 2:04:08 PM

Mean Area 82.97
Mean Conc. 0.3023mg/L



Sample

Sample Name: 53058.1SPK 2X
Sample ID: X
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

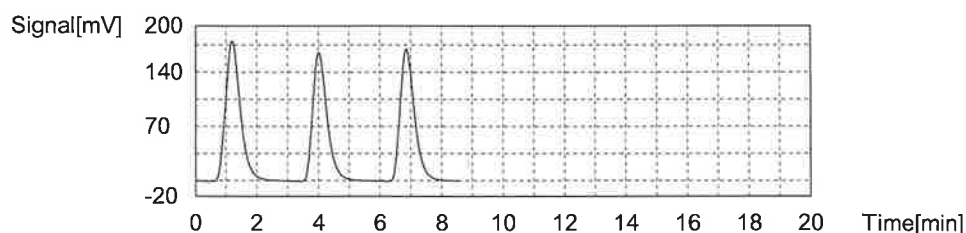
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.164mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	636.0	4.469mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 2:15:35 PM
2	567.3	3.951mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 2:20:31 PM
3	583.6	4.074mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 2:25:28 PM

Mean Area 595.6
Mean Conc. 4.164mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.928mg/L

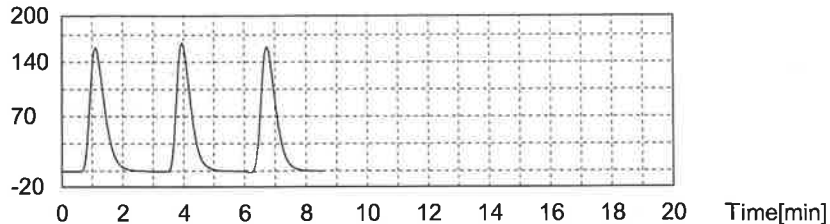
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	563.9	3.925mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 2:59:45 PM
2	564.3	3.928mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 3:04:37 PM
3	564.5	3.930mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 3:09:37 PM

Mean Area 564.2
Mean Conc. 3.928mg/L

Signal[mV] 200



Sample

Sample Name: CCB
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2553mg/L

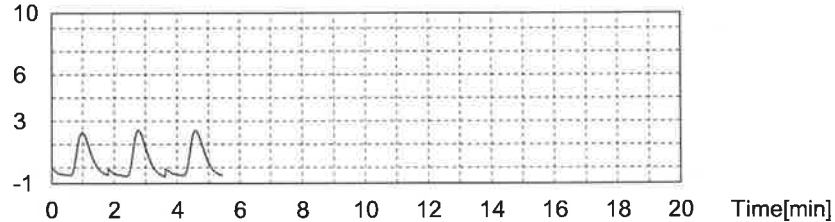
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.474	-0.2589mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 3:19:59 PM
2	9.230	-0.2532mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 3:24:32 PM
3	9.125	-0.2540mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 3:28:57 PM

Mean Area 8.943
Mean Conc. -0.2553mg/L

Signal[mV] 10



Instr. Information

System
Instrument OptionsTOCVwp 6
TOC/ASI/

Sample

Sample Name: 53058.1 SPK 4X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.942mg/L

15.77

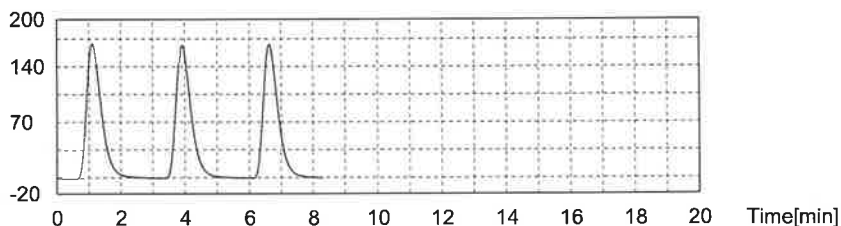
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	565.1	3.934mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 3:50:16 PM
2	566.5	3.945mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 3:55:10 PM
3	566.7	3.947mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 4:00:03 PM

Mean Area 566.1
Mean Conc. 3.942mg/L

Signal[mV]



Sample

Sample Name: L2453072-01; 8X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.253mg/L

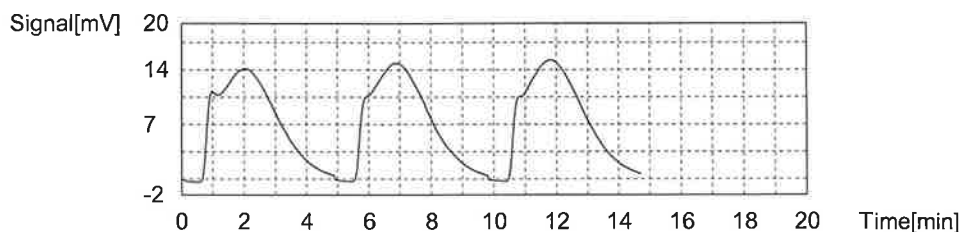
10.02

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	204.3	1.216mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	2024 4:13:31 PM
2	208.3	1.247mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	2024 4:20:45 PM
3	214.7	1.295mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	2024 4:27:54 PM

Mean Area 209.1
Mean Conc. 1.253mg/L



Sample

Sample Name: L2453072-02; 8X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.785mg/L

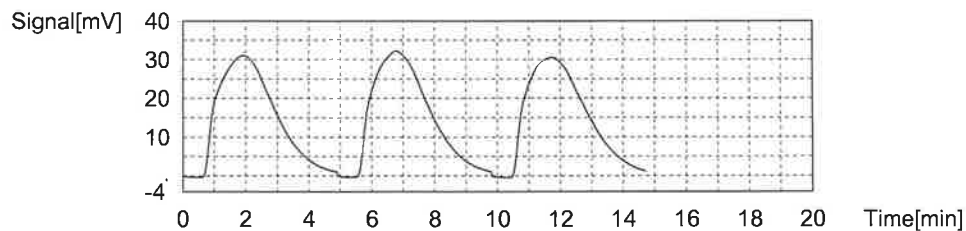
22.28

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	404.5	2.725mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	2024 4:41:22 PM
2	414.9	2.803mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	2024 4:48:40 PM
3	418.3	2.829mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	2024 4:55:59 PM

Mean Area 412.6
Mean Conc. 2.785mg/L



Sample

Sample Name: L2453072-05; 8X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

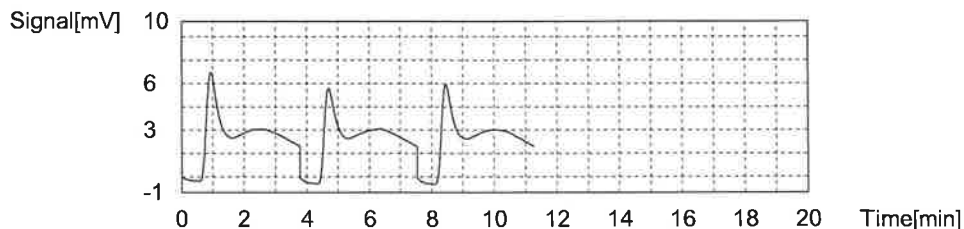
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.00461mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	42.90	0.00049mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 5:08:20 PM
2	41.71	-0.00847mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 5:14:31 PM
3	42.06	-0.00584mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 5:21:22 PM

Mean Area 42.22
Mean Conc. -0.00461mg/L



Sample

Sample Name: L2453072-06; 2X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.629mg/L

3.26

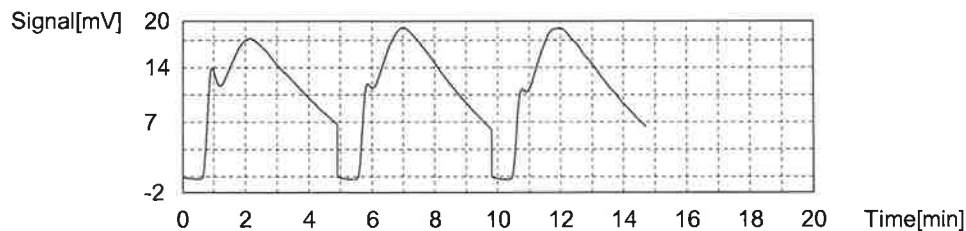
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	247.4	1.541mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 5:34:51 PM
2	267.8	1.695mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 5:42:53 PM
3	261.9	1.650mg/L	2500uL	1		09202024 TOC6 CURVE.2024_09_20	09/20/2024 5:50:56 PM

9.5%

Mean Area 259.0
Mean Conc. 1.629mg/L



Sample

Sample Name: L2453072-07; 2X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

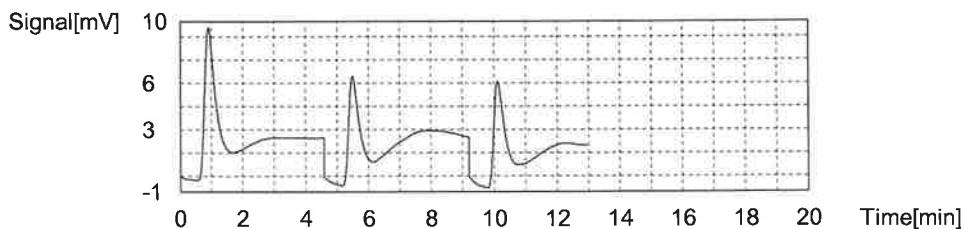
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.05907mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	40.87	-0.01480mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 6:04:06 PM
2	38.66	-0.03145mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 6:10:49 PM
3	25.45	-0.1310mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 6:16:40 PM

Mean Area 34.99
Mean Conc. -0.05907mg/L



Sample

Sample Name: L2453118-01; 4X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.513mg/L

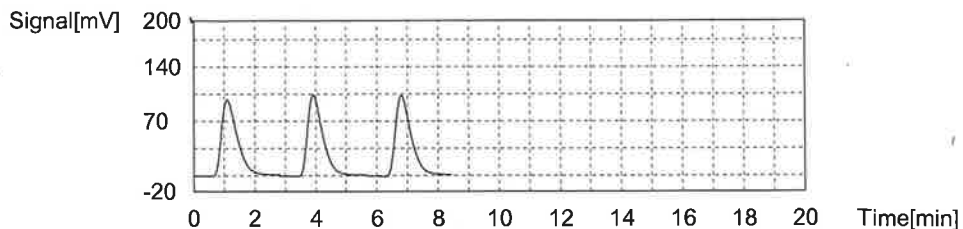
io 05

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	366.7	2.440mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 6:28:04 PM
2	380.5	2.544mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 6:33:20 PM
3	382.0	2.555mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 6:39:39 PM

Mean Area 376.4
Mean Conc. 2.513mg/L



Sample

Sample Name: L2453130-01
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

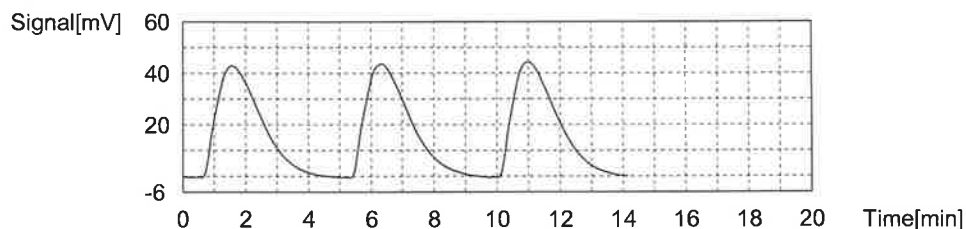
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.066mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	442.1	3.008mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 6:52:58 PM
2	450.8	3.073mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 6:59:48 PM
3	456.7	3.118mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 7:06:39 PM

Mean Area 449.9
Mean Conc. 3.066mg/L



Sample

Sample Name: L2453130-02
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

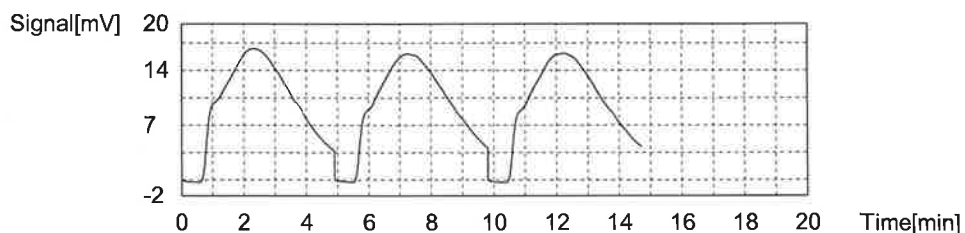
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.481mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	244.9	1.522mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 7:20:08 PM
2	238.1	1.471mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 7:28:12 PM
3	235.4	1.451mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 7:36:17 PM

Mean Area 239.5
Mean Conc. 1.481mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

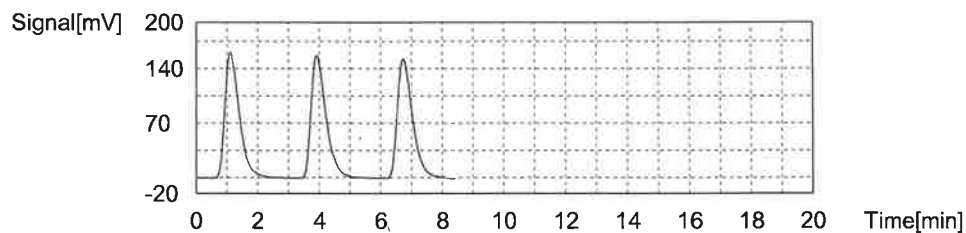
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.831mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	552.8	3.842mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 8:05:32 PM
2	552.3	3.838mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 8:10:26 PM
3	549.0	3.813mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 8:15:19 PM

Mean Area 551.4
Mean Conc. 3.831mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2512mg/L

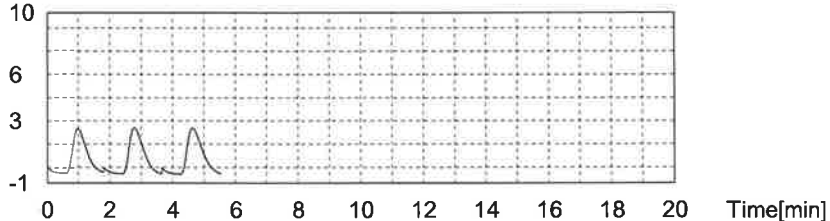
1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.833	-0.2562mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 8:25:42 PM
2	9.657	-0.2499mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 8:30:10 PM
3	9.972	-0.2476mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 8:34:30 PM

Mean Area 9.487
Mean Conc. -0.2512mg/L

Signal[mV] 10



Sample

Sample Name: L2453058-02; DUP
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

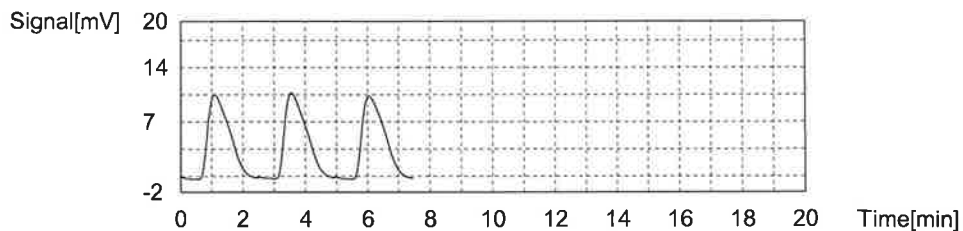
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.08921mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	54.25	0.08600mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 8:45:33 PM
2	54.98	0.09150mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 8:50:08 PM
3	54.80	0.09014mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 8:54:44 PM

Mean Area 54.68
Mean Conc. 0.08921mg/L



Sample

Sample Name: L2453058-02; SPK 4X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.988mg/L

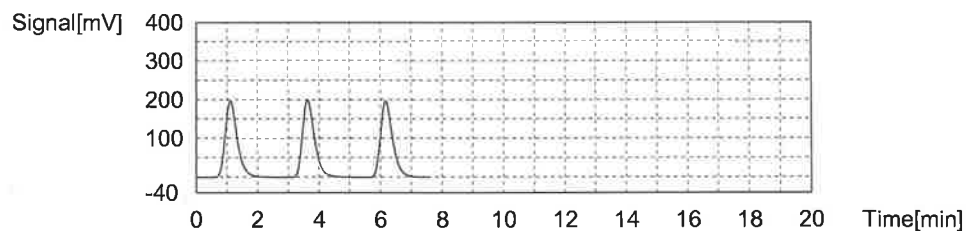
1. Det

15.95

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	569.7	3.969mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:05:51 PM
2	575.0	4.009mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:10:29 PM
3	571.9	3.986mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:15:06 PM

Mean Area 572.2
Mean Conc. 3.988mg/L



Sample

Sample Name: L2453072-05; 2X MAT
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4239mg/L

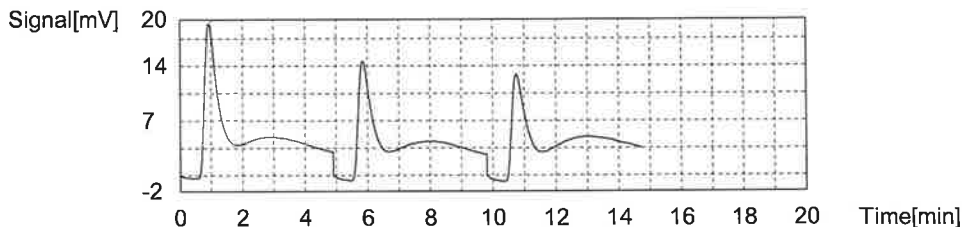
85

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	111.1	0.5143mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:28:35 PM
2	95.41	0.3961mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:35:53 PM
3	90.82	0.3615mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:43:51 PM

Mean Area 99.11
Mean Conc. 0.4239mg/L



Sample

Sample Name: FB 091524 ALL DOC
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

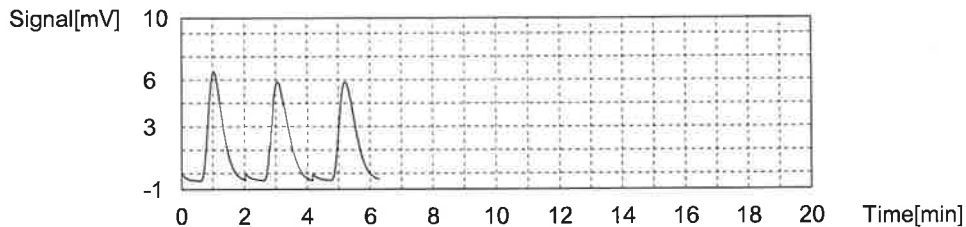
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.1464mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	23.00	-0.1494mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:54:27 PM
2	23.63	-0.1447mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 9:58:53 PM
3	23.56	-0.1452mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:03:08 PM

Mean Area 23.40
Mean Conc. -0.1464mg/L



Sample

Sample Name: L2452183-04; 2X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

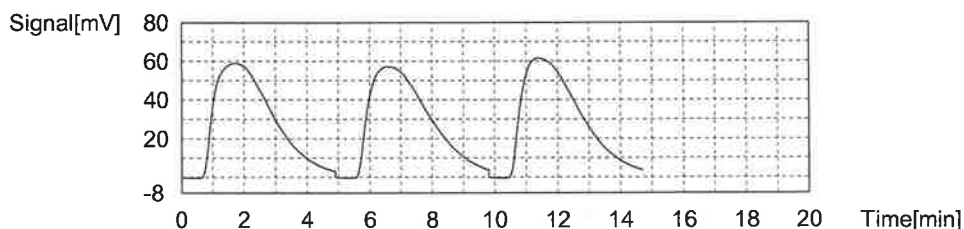
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:5.546mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	771.1	5.486mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:16:38 PM
2	772.6	5.498mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:24:34 PM
3	793.5	5.655mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:32:34 PM

Mean Area 779.1
Mean Conc. 5.546mg/L



Sample

Sample Name: L2452183-05; 2X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

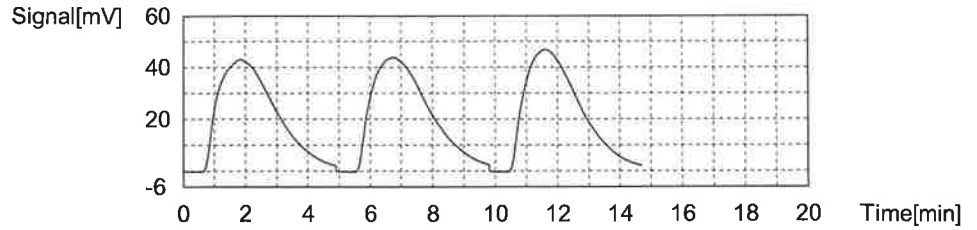
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.028mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	566.6	3.946mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:46:03 PM
2	571.8	3.985mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 10:53:23 PM
3	594.2	4.154mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:01:19 PM

Mean Area 577.5
Mean Conc. 4.028mg/L



Sample

Sample Name: L2452183-06; 2X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

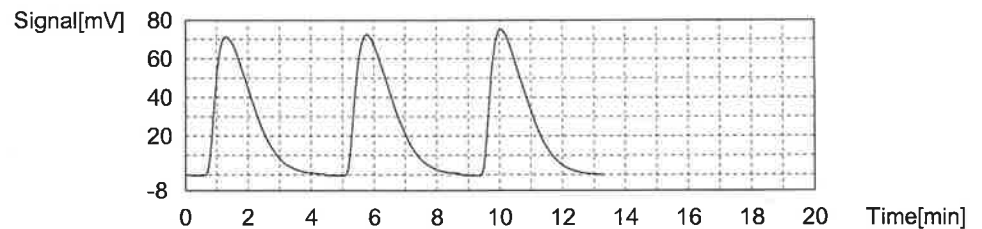
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.333mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	606.3	4.245mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:14:20 PM
2	617.0	4.325mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:20:48 PM
3	630.7	4.429mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:27:46 PM

Mean Area 618.0
Mean Conc. 4.333mg/L



Sample

Sample Name: FB 091924
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

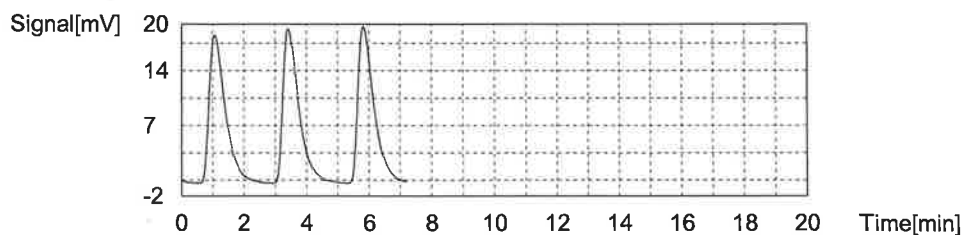
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2157mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	69.65	0.2020mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:38:43 PM
2	71.24	0.2140mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:43:13 PM
3	73.52	0.2312mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:47:44 PM

Mean Area 71.47
Mean Conc. 0.2157mg/L



Sample

Sample Name: L2453250-01; 10X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

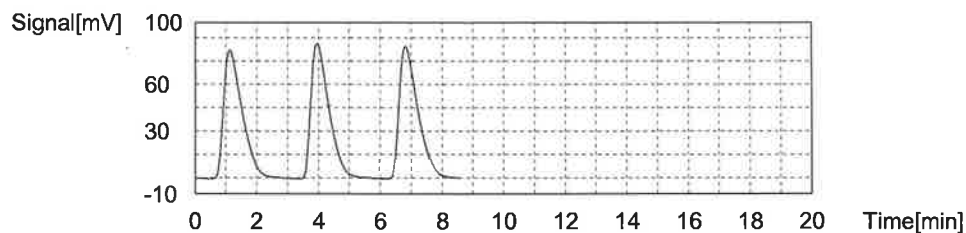
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.444mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	360.8	2.395mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/20/2024 11:59:09 PM
2	369.5	2.461mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 12:04:07 AM
3	371.4	2.475mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 12:09:05 AM

Mean Area 367.2
Mean Conc. 2.444mg/L



Sample

Sample Name: FB 092024
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

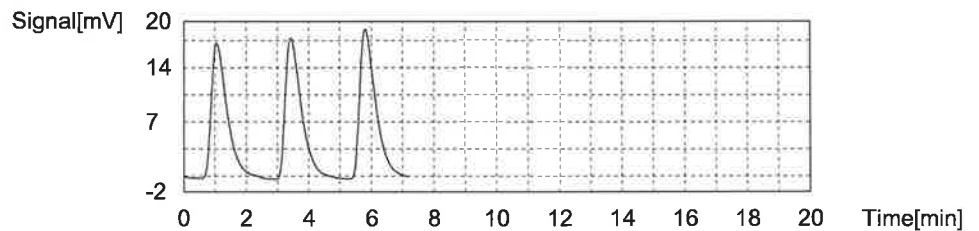
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1806mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	62.71	0.1497mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 12:20:02 AM
2	67.43	0.1853mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 12:24:31 AM
3	70.27	0.2067mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 12:29:01 AM

Mean Area 66.80
Mean Conc. 0.1806mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

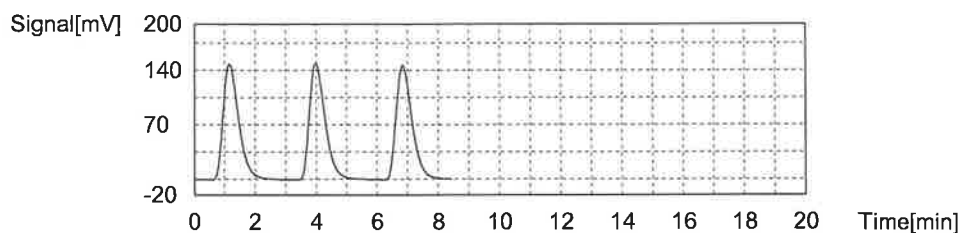
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.862mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	553.8	3.849mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 12:40:26 AM
2	557.3	3.876mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 12:45:22 AM
3	555.4	3.861mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 12:50:13 AM

Mean Area 555.5
Mean Conc. 3.862mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

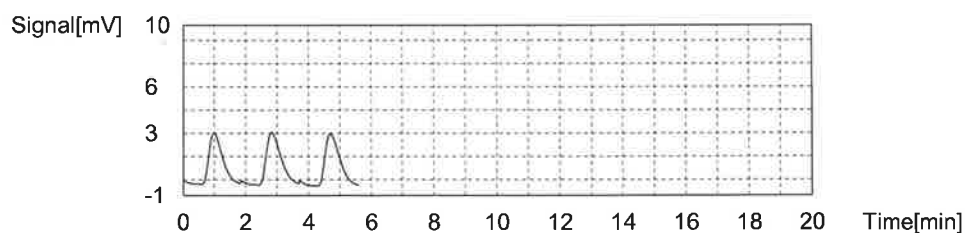
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2413mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.16	-0.2462mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	2024 09 20 1:00:38 AM
2	11.06	-0.2394mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	2024 09 20 1:05:07 AM
3	11.18	-0.2385mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	2024 09 20 1:09:26 AM

Mean Area 10.80
Mean Conc. -0.2413mg/L



Sample

Sample Name: L2453914-01; 20X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

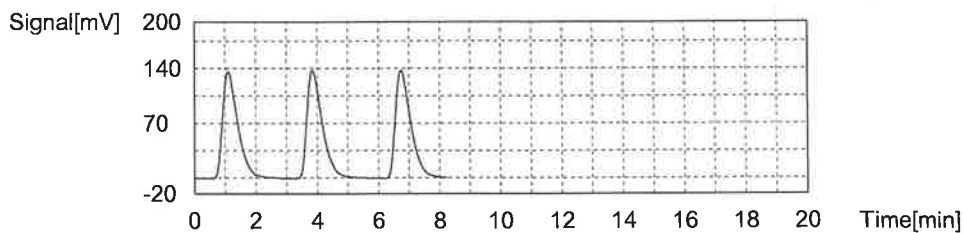
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.446mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	491.5	3.380mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	209/21/2024 1:20:47 AM
2	503.8	3.473mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	209/21/2024 1:25:51 AM
3	505.6	3.486mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	209/21/2024 1:30:34 AM

Mean Area 500.3
Mean Conc. 3.446mg/L



Sample

Sample Name: L2453914-01; DUP 20X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

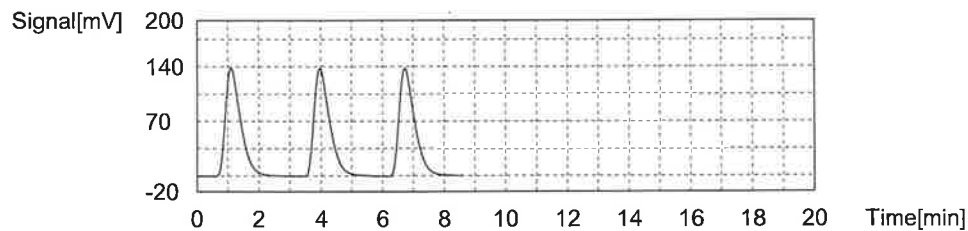
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.497mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	499.2	3.438mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	209/21/2024 1:42:01 AM
2	508.2	3.506mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	209/21/2024 1:46:53 AM
3	513.7	3.547mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09	209/21/2024 1:52:06 AM

Mean Area 507.0
Mean Conc. 3.497mg/L



Sample

Sample Name: L2453914-01; SPK 40X
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status Completed
Chk. Result

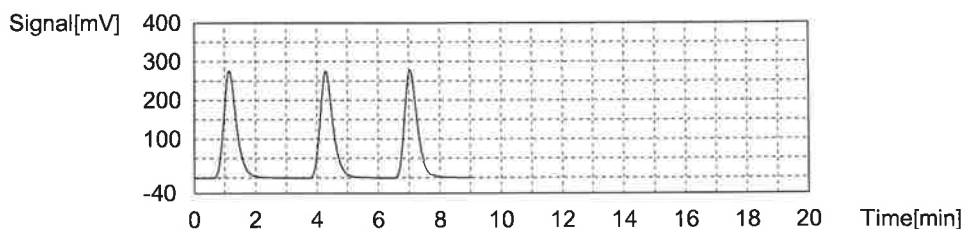
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:6.026mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	834.0	5.960mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	2024 2:03:49 AM
2	842.3	6.023mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	2024 2:08:41 AM
3	851.9	6.095mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	2024 2:13:54 AM

Mean Area 842.7
Mean Conc. 6.026mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status Completed
Chk. Result

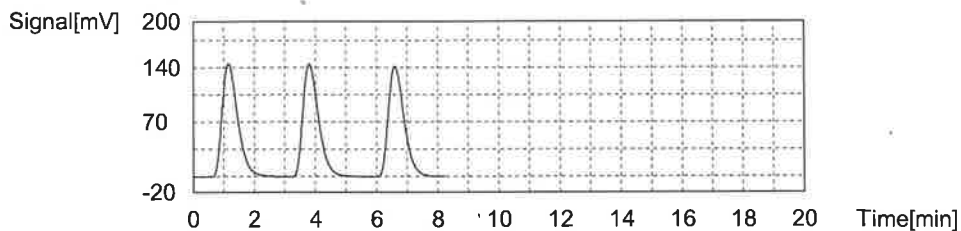
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.740mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	538.7	3.736mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	2024 2:25:09 AM
2	542.9	3.767mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	2024 2:30:05 AM
3	536.1	3.716mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	2024 2:35:08 AM

Mean Area 539.2
Mean Conc. 3.740mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC6 METHOD 3 REPS.met
Status: Completed
Chk. Result

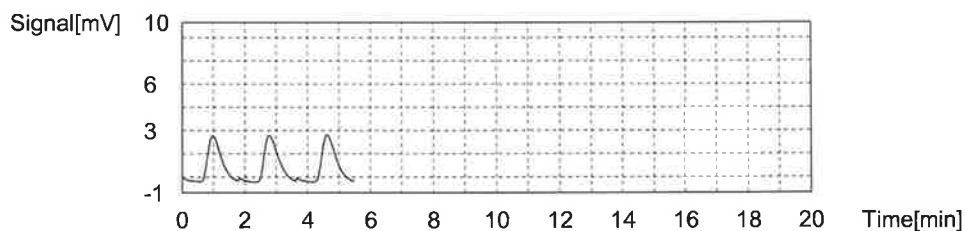
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:-0.2522mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.928	-0.2554mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 2:45:33 AM
2	9.631	-0.2501mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 2:50:12 AM
3	9.494	-0.2512mg/L	2500uL	1		09202024 TOC6_CURVE.2024_09_20	09/21/2024 2:54:37 AM

Mean Area 9.351
Mean Conc. -0.2522mg/L



Quality Control

Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC	Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF	Project Number : 2232.0006Y005
Client Sample ID : MW-15R	Matrix : WATER
Lab Sample ID : L2453058-01	
Matrix Spike : WG1974132-3	MS Analysis Date : 09/20/24 09:41
Matrix Spike Dup :	MSD Analysis Date :

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Total Organic Carbon	0.433J	16	15.8	98					85-115	15

Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC	Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF	Project Number : 2232.0006Y005
Client Sample ID : MW-1DR	Matrix : WATER
Lab Sample ID : L2453058-02	
Matrix Spike : WG1974132-5	MS Analysis Date : 09/20/24 09:41
Matrix Spike Dup :	MSD Analysis Date :

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Total Organic Carbon	ND	16	16.0	100					85-115	15

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/20/24 11:57
Dup Sample ID	: WG1974132-4	DUP Analysis Date	: 09/20/24 14:04

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Total Organic Carbon	0.433J	0.302J	NC	15

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/20/24 11:57
Dup Sample ID	: WG1974132-4	DUP Analysis Date	: 09/20/24 09:41

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Total Organic Carbon	0.433J	0.300J	NC	15

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-1DR	Matrix	: WATER
Lab Sample ID	: L2453058-02	Analysis Date	: 09/20/24 12:17
Dup Sample ID	: WG1974132-6	DUP Analysis Date	: 09/20/24 09:41

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Total Organic Carbon	ND	ND	NC	15

Form 7

Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : NA Lab Sample ID : WG1974132-2 Dup Sample ID :	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER LCS Analysis Date : 09/20/24 10:57 LCSD Analysis Date :

Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Total Organic Carbon	4.00	3.76	94.					90-110	15



Date Created: 11/11/21
Created By: Jason Hebert
File: PM11467-1
Page: 1

WETCHEM (WATER)

[illegible]

Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Calculations of TOC

Aqueous samples:

The TOC Talk Software calculates the area of the peaks produced by the analyzer, compares them to the peak area of the calibration standard stored in its memory, and calculates a mean TOC value from two injections in mg/L.

If the sample was manually diluted prior to analysis, the calculated mean must be manually multiplied by the dilution factor. The Reported Detection Limit is also multiplied by the same dilution factor.

$$\text{Result, mg/L} = \frac{\text{area} - \text{y-intercept}}{\text{slope}} \times \text{Dilution Factor}$$



Sequence Logs

DATE: 9/20/24		CURVE ID: TOC-6 092024		WORKING STDS ID:	
ANALYST: SD		STOCK STDS ID:		4 PPM ICV: TOC-092024-ICV	
		2000 PPM CURVE SLN: TOC-071924-C		4 PPM LCS: TOC-092024-LCS	
		2000 PPM ICV/LCS/SPK SLN: TOC-071924-L		4 PPM SPK: TOC-071924-W	
		400 PPM IC CK STD SLN: TOC-091224-12400		10 PPM IC CK STD: TOC-092024-1C10	

POSITION	SAMPLE	DIL X	PH	COMMENTS	POSITION	SAMPLE	DIL X	PH	COMMENTS
1	DI				27	53072.5	8		x low
2	DI				28	.6	2		/
3	DI				29	.7	2		x low met -
4	Curve DI				30	53118.1	4		/
5	.5				31	53130.1	1		/
6	1.0				32	.2	1		/
7	5.0				33	CCV			
8	10.0				34	CCB			
9	IC pH				35	53058.2 dp	1		-
10	ICV				36	.7 spk	4		-
11	ICB				37	53072.5	2		- met
12	MB				38	FB 0915			-
13	LCS				39	52183.4	2		-
14	52547.1	8		x	40	.5	2		-
15	52673.1	4		/	41	.6	2		-
16	53058.1	1		/	42	FB 0919	1		-
17	.2	1		/	43	53250.1	10		-
18	.3	1		/	44	FB 0920	1		-
19	25247.1	2		/ Met	45	CCV			
20	53054.1 dp	1		/	46	CCB			
21	-1 spk	2		x	47	53914.1	20		
22	CCV			/	48	.1 dp	20		
23	CCB			/	49	-1 spk	40		
24	53058.1 sp	4		-	50	CCV			
25	53072.1	8		-	51	CCB			
26	.2	8		-	52				

Total Dissolved Solids Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 17:50
Sample Matrix	: WATER	Dilution Factor	: 1.3
Analytical Method	: 121,2540C	Analyst	: REM
Lab File ID	: WG1974431.pdf	Instrument ID	: BALANCE#22
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Solids, Total Dissolved	78.	13	4.0	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 17:50
Sample Matrix	: WATER	Dilution Factor	: 1.3
Analytical Method	: 121,2540C	Analyst	: REM
Lab File ID	: WG1974431.pdf	Instrument ID	: BALANCE#22
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Solids, Total Dissolved	120	13	4.0	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 17:50
Sample Matrix	: WATER	Dilution Factor	: 1.3
Analytical Method	: 121,2540C	Analyst	: REM
Lab File ID	: WG1974431.pdf	Instrument ID	: BALANCE#22
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Solids, Total Dissolved	150	13	4.0	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974431-1	Date Collected	: NA
Client ID	: WG1974431-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/20/24 17:50
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,2540C	Analyst	: REM
Lab File ID	: WG1974431.pdf	Instrument ID	: BALANCE#22
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Solids, Total Dissolved	ND	10	3.1	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974431-3	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/20/24 17:50
Sample Matrix	: WATER	Dilution Factor	: 1.3
Analytical Method	: 121,2540C	Analyst	: REM
Lab File ID	: WG1974431.pdf	Instrument ID	: BALANCE#22
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Solids, Total Dissolved	89.	13	4.0	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974431-4	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DRDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/20/24 17:50
Sample Matrix	: WATER	Dilution Factor	: 1.3
Analytical Method	: 121,2540C	Analyst	: REM
Lab File ID	: WG1974431.pdf	Instrument ID	: BALANCE#22
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Solids, Total Dissolved	140	13	4.0	



Sample Raw Data

WorkGroup	WG1974431	Temp In (C)		180	Temp In (C)		180	Temp In (C)		Temp In (C)		Temp In (C)		
Title	Solids, Total Dissolved	Temp Out (C)		180	Temp Out (C)		180	Temp Out (C)		Temp Out (C)		Temp Out (C)		
Method	SM2540C	Time In		21-SEP-24 15:25	Time In		21-SEP-24 21:10	Time In		Time In		Time In		
Instrument	BALANCE#22	Time Out		21-SEP-24 19:31	Time Out		21-SEP-24 22:25	Time Out		Time Out		Time Out		
											LCS Lot #	TrueValue	Units	
											082724C	500	mg/l	
Sample #	Analysis Date	Analyst	Cup ID	Filter Lot	Tare Weight (gm)	Sample Volume (ml)	Net Weight (1) (gm)	Net Weight (2) (gm)	Net Weight (3) (gm)	Net Weight (4) (gm)	Net Weight (5) (gm)	Result mg/L	Dil	Comment
L2453058-01	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	L10	77340422	68.3192	80	68.3257	68.3254				77.50	1.3	
L2453058-02	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	BIR	77340422	84.421	80	84.4309	84.4312				123.75	1.3	
L2453058-03	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	PZ	77340422	64.6046	80	64.6165	64.6163				146.25	1.3	
L2453063-01	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	BQ	77340422	110.8623	80	110.9414	110.9412				986.25	1.3	
L2453081-01	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	RK	77340422	84.0354	80	84.0654	84.0655				375.00	1.3	
L2453081-02	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	P8	77340422	70.7385	80	70.7715	70.7713				410.00	1.3	
L2453084-10	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	L8	77340422	72.0698	80	72.0795	72.0792				117.50	1.3	
L2453084-11	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	EG	77340422	62.8505	80	62.8574	62.8576				86.25	1.3	
L2453084-12	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	RG	77340422	137.1505	80	137.1643	137.1641				170.00	1.3	T4
L2453084-13	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	F	77340422	59.1655	80	59.1756	59.1752				121.25	1.3	
L2453084-15	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	AS	77340422	81.3497	80	81.3705	81.3707				260.00	1.3	
L2453084-16	20-SEP-24 17:50	RENATA MUKHAMETZHAN OVA	XM	77340422	128.3957	80	128.4144	128.414				228.75	1.3	

WorkGroup	WG1974431	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)		180	Temp In (C)</	

Quality Control

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/20/24 17:50
Dup Sample ID	: WG1974431-3	DUP Analysis Date	: 09/20/24 17:50

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Solids, Total Dissolved	78.	89.	13 Q	10

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-1DR	Matrix	: WATER
Lab Sample ID	: L2453058-02	Analysis Date	: 09/20/24 17:50
Dup Sample ID	: WG1974431-4	DUP Analysis Date	: 09/20/24 17:50

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Solids, Total Dissolved	120	140	15 Q	10

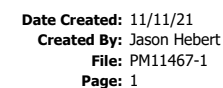
Form 7

Laboratory Control Sample

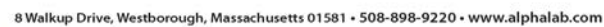
Client : Roux Env. Eng. & Geology, DPC
 Project Name : CORAM MATERIALS: CLOSED LF
 Client Sample ID : NA
 Lab Sample ID : WG1974431-2
 Dup Sample ID :
 Lab Number : L2453058
 Project Number : 2232.0006Y005
 Matrix : WATER
 LCS Analysis Date : 09/20/24 17:50
 LCSD Analysis Date :

Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Solids, Total Dissolved	500.	490.	98.					80-120	10

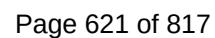


[illegible]

Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Calculations of TDS

$$\text{mgTDS/L} = \frac{(A - B) \times 1000}{\text{Sample volume, (L)}}$$

Where:

A = Final weight (weight of dish + dried residue, g)

B = Initial weight (weight of clean dish, g)



Alkalinity Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 12:26
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,2320B	Analyst	: MKT
Lab File ID	: 240919.csv	Instrument ID	: TITR5
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg CaCO ₃ /L			Qualifier
		Results	RL	MDL	
471-34-1	Alkalinity, Total	57.5	2.00	NA	

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 12:35
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,2320B	Analyst	: MKT
Lab File ID	: 240919.csv	Instrument ID	: TITR5
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg CaCO ₃ /L			Qualifier
		Results	RL	MDL	
471-34-1	Alkalinity, Total	50.4	2.00	NA	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/19/24 12:37
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,2320B	Analyst	: MKT
Lab File ID	: 240919.csv	Instrument ID	: TITR5
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg CaCO3/L			Qualifier
		Results	RL	MDL	
471-34-1	Alkalinity, Total	51.1	2.00	NA	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973760-1	Date Collected	: NA
Client ID	: WG1973760-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/19/24 11:49
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,2320B	Analyst	: MKT
Lab File ID	: 240919.csv	Instrument ID	: TITR5
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg CaCO ₃ /L			Qualifier
		Results	RL	MDL	
471-34-1	Alkalinity, Total	ND	2.00	NA	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1973760-3	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/19/24 12:28
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 121,2320B	Analyst	: MKT
Lab File ID	: 240919.csv	Instrument ID	: TITR5
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg CaCO ₃ /L			Qualifier
		Results	RL	MDL	
471-34-1	Alkalinity, Total	57.0	2.00	NA	



Sample Raw Data

Results Editor



Result Overview

Sample start t	Zero poin	Unit of Ze	Data mar	Slope 1 (C	Unit of Slo	Data mar	Sensor ty	List of sta	Standard	Comment	Temperat
	7.206	pH		-57.24	mV/pH						

Results Editor



Result Overview

Sample ID1	Potentia	Unit of P	Data ma	Sample start	Volume	Unit of V	Density	Unit of D	Cor	Uni	Tempera	Unit of T	Commer
--	7.05	pH		9/19/2024 1	0	mL	1.0	g/mL	1.0		25.0	°C	

Titration report



Method

Method ID	Alk Total (2)	Release state	Released
Name	EP/EP	Modified by	SystemInternal
Modified on	10/14/2023 11:44:43 AM		

Summary

Samples

Sample ID	Name	Result	State
1	Rinse,MKT	Sample size	50 mL
		Potential R4	6.97 pH
		Consumption 8.3 R1	NaN mL
		Consumption 4.5 R2	0.972 mL
		Consumption 4.2 R3	0.978 mL
		Content R5	19.440 mg/L
		ALK LOW R6	19.320 mg/L
2	Rinse,MKT	Sample size	50 mL
		Potential R4	5.54 pH
		Consumption 8.3 R1	NaN mL
		Consumption 4.5 R2	0.094 mL
		Consumption 4.2 R3	0.099 mL
		Content R5	1.880 mg/L
		ALK LOW R6	1.780 mg/L
3	WG1973760-1	Sample size	50 mL
		Potential R4	5.08 pH
		Consumption 8.3 R1	NaN mL
		Consumption 4.5 R2	0.036 mL
		Consumption 4.2 R3	0.043 mL
		Content R5	0.720 mg/L
		ALK LOW R6	0.580 mg/L
4	WG1973760-2	Sample size	50 mL
		Potential R4	10.69 pH
		Consumption 8.3 R1	4.695 mL
		Consumption 4.5 R2	5.067 mL
		Consumption 4.2 R3	5.073 mL
		Content R5	101.340 mg/L
		ALK LOW R6	101.220 mg/L
5	I2451391-03 5x+20	Sample size	50 mL
		Potential R4	6.02 pH
		Consumption 8.3 R1	NaN mL
		Consumption 4.5 R2	16.948 mL
		Consumption 4.2 R3	17.355 mL
		Content R5	338.960 mg/L
		ALK LOW R6	330.820 mg/L
6	I2452439-04	Sample size	50 mL

Titration report

LabX

		Potential R4	7.86 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	NaN mL	Not OK
		Consumption 4.2 R3	NaN mL	Not OK
		Content R5	NaN mg/L	Not OK
		ALK LOW R6	NaN mg/L	Not OK
7	I2452564-01	Sample size	50 mL	
		Potential R4	6.21 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	7.012 mL	OK
		Consumption 4.2 R3	7.106 mL	OK
		Content R5	140.240 mg/L	OK
		ALK LOW R6	138.360 mg/L	OK
8	I2452564-02	Sample size	50 mL	
		Potential R4	5.94 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	6.441 mL	OK
		Consumption 4.2 R3	6.501 mL	OK
		Content R5	128.820 mg/L	OK
		ALK LOW R6	127.620 mg/L	OK
9	I2453058-01	Sample size	50 mL	
		Potential R4	5.64 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	2.873 mL	OK
		Consumption 4.2 R3	2.912 mL	OK
		Content R5	57.460 mg/L	OK
		ALK LOW R6	56.680 mg/L	OK
10	WG1973760-3	Sample size	50 mL	
		Potential R4	5.58 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	2.851 mL	OK
		Consumption 4.2 R3	2.886 mL	OK
		Content R5	57.020 mg/L	OK
		ALK LOW R6	56.320 mg/L	OK
11	WG1973760-4	Sample size	50 mL	
		Potential R4	9.96 pH	OK
		Consumption 8.3 R1	4.656 mL	OK
		Consumption 4.5 R2	8.223 mL	OK
		Consumption 4.2 R3	8.234 mL	OK
		Content R5	164.460 mg/L	OK
		ALK LOW R6	164.240 mg/L	OK
12	I2453058-02	Sample size	50 mL	
		Potential R4	5.68 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	2.521 mL	OK
		Consumption 4.2 R3	2.549 mL	OK
		Content R5	50.420 mg/L	OK

Titration report

LabX

13	I2453058-03	ALK LOW R6	49.860 mg/L	OK
		Sample size	50 mL	
		Potential R4	5.68 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	2.555 mL	OK
		Consumption 4.2 R3	2.578 mL	OK
		Content R5	51.100 mg/L	OK
14	I2453069-01	ALK LOW R6	50.640 mg/L	OK
		Sample size	50 mL	
		Potential R4	5.25 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	0.299 mL	OK
		Consumption 4.2 R3	0.304 mL	OK
		Content R5	5.980 mg/L	OK
15	I2453069-02	ALK LOW R6	5.880 mg/L	OK
		Sample size	50 mL	
		Potential R4	5.14 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	0.405 mL	OK
		Consumption 4.2 R3	0.420 mL	OK
		Content R5	8.100 mg/L	OK
16	I2453069-03	ALK LOW R6	7.800 mg/L	OK
		Sample size	50 mL	
		Potential R4	5.18 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	0.291 mL	OK
		Consumption 4.2 R3	0.298 mL	OK
		Content R5	5.820 mg/L	OK
17	I2453072-01	ALK LOW R6	5.680 mg/L	OK
		Sample size	50 mL	
		Potential R4	6.14 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	NaN mL	Not OK
		Consumption 4.2 R3	NaN mL	Not OK
		Content R5	NaN mg/L	Not OK
18	I2453072-02	ALK LOW R6	NaN mg/L	Not OK
		Sample size	50 mL	
		Potential R4	6.63 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	NaN mL	Not OK
		Consumption 4.2 R3	NaN mL	Not OK
		Content R5	NaN mg/L	Not OK
19	I2453072-05	ALK LOW R6	NaN mg/L	Not OK
		Sample size	50 mL	
		Potential R4	6.35 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	13.743 mL	OK

Titration report

LabX

		Consumption 4.2 R3	14.191 mL	OK
		Content R5	274.860 mg/L	OK
		ALK LOW R6	265.900 mg/L	OK
20	I2453072-06	Sample size	50 mL	
		Potential R4	6.29 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	18.352 mL	OK
		Consumption 4.2 R3	18.573 mL	OK
		Content R5	367.040 mg/L	OK
		ALK LOW R6	362.620 mg/L	OK
21	I2453072-07	Sample size	50 mL	
		Potential R4	6.31 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	16.757 mL	OK
		Consumption 4.2 R3	16.932 mL	OK
		Content R5	335.140 mg/L	OK
		ALK LOW R6	331.640 mg/L	OK
22	I2453084-01	Sample size	50 mL	
		Potential R4	5.48 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	1.181 mL	OK
		Consumption 4.2 R3	1.212 mL	OK
		Content R5	23.620 mg/L	OK
		ALK LOW R6	23.000 mg/L	OK
23	I2453084-02	Sample size	50 mL	
		Potential R4	5.92 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	5.843 mL	OK
		Consumption 4.2 R3	5.910 mL	OK
		Content R5	116.860 mg/L	OK
		ALK LOW R6	115.520 mg/L	OK
24	I2453084-03	Sample size	50 mL	
		Potential R4	6.04 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	6.109 mL	OK
		Consumption 4.2 R3	6.151 mL	OK
		Content R5	122.180 mg/L	OK
		ALK LOW R6	121.340 mg/L	OK
25	I2453084-04	Sample size	50 mL	
		Potential R4	6.09 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	8.541 mL	OK
		Consumption 4.2 R3	8.636 mL	OK
		Content R5	170.820 mg/L	OK
		ALK LOW R6	168.920 mg/L	OK
26	I2453084-05	Sample size	50 mL	
		Potential R4	5.99 pH	OK

Titration report

LabX

		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	10.594 mL	OK
		Consumption 4.2 R3	10.695 mL	OK
		Content R5	211.880 mg/L	OK
		ALK LOW R6	209.860 mg/L	OK
27	I2452439-04 2x	Sample size	50 mL	
		Potential R4	7.89 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	10.213 mL	OK
		Consumption 4.2 R3	10.261 mL	OK
		Content R5	204.260 mg/L	OK
		ALK LOW R6	203.300 mg/L	OK
28	I2453072-01 2x+10	Sample size	50 mL	
		Potential R4	5.69 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	6.532 mL	OK
		Consumption 4.2 R3	6.699 mL	OK
		Content R5	130.640 mg/L	OK
		ALK LOW R6	127.300 mg/L	OK
29	I2453072-02 2x+10	Sample size	50 mL	
		Potential R4	5.79 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	6.561 mL	OK
		Consumption 4.2 R3	8.050 mL	OK
		Content R5	131.220 mg/L	OK
		ALK LOW R6	101.440 mg/L	OK
30	CCV	Sample size	50 mL	
		Potential R4	10.74 pH	OK
		Consumption 8.3 R1	4.700 mL	OK
		Consumption 4.5 R2	5.104 mL	OK
		Consumption 4.2 R3	5.108 mL	OK
		Content R5	102.080 mg/L	OK
		ALK LOW R6	102.000 mg/L	OK
31	CCB	Sample size	50 mL	
		Potential R4	5.18 pH	OK
		Consumption 8.3 R1	NaN mL	Not OK
		Consumption 4.5 R2	0.046 mL	OK
		Consumption 4.2 R3	0.054 mL	OK
		Content R5	0.920 mg/L	OK
		ALK LOW R6	0.760 mg/L	OK

Statistics

R1

Mean	NaN mL		
Maximum	4.700 mL	Minimum	4.656 mL

Titration report



Standard deviation NaN mL
Total samples 31

Rel. standard deviation NaN %
Samples excluded 0

R2

Mean NaN mL
Maximum 18.352 mL
Standard deviation NaN mL
Total samples 31

Minimum 0.036 mL
Rel. standard deviation NaN %
Samples excluded 0

R3

Mean NaN mL
Maximum 18.573 mL
Standard deviation NaN mL
Total samples 31

Minimum 0.043 mL
Rel. standard deviation NaN %
Samples excluded 0

R4

Mean 6.42 pH
Maximum 10.74 pH
Standard deviation 1.51 pH
Total samples 31

Minimum 5.08 pH
Rel. standard deviation 23.479 %
Samples excluded 0

R5

Mean NaN mg/L
Maximum 367.040 mg/L
Standard deviation NaN mg/L
Total samples 31

Minimum 0.720 mg/L
Rel. standard deviation NaN %
Samples excluded 0

R6

Mean NaN mg/L
Maximum 362.620 mg/L
Standard deviation NaN mg/L
Total samples 31

Minimum 0.580 mg/L
Rel. standard deviation NaN %
Samples excluded 0

Used Instruments

Name T7 Excellence Titrator

Serial number C329519495

Responsible User

Time	Login name	Full name
9/19/2024 11:46:15 AM	SystemInternal	System internal account

(17) Data compression on instrument occurred

Quality Control

Form 5a Matrix Spike

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01		
Matrix Spike	: WG1973760-4	MS Analysis Date	: 09/19/24 12:30
Matrix Spike Dup	:	MSD Analysis Date	:

Parameter	Sample Conc. (mg CaCO3/L)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg CaCO3/L)	Spike Conc. (mg CaCO3/L)		Spike Added (mg CaCO3/L)	Spike Conc. (mg CaCO3/L)				
Alkalinity, Total	57.5	100	164.	107					86-116	10



Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/19/24 12:26
Dup Sample ID	: WG1973760-3	DUP Analysis Date	: 09/19/24 12:28

Parameter	Sample Concentration (mg CaCO ₃ /L)	Duplicate Concentration (mg CaCO ₃ /L)	RPD	RPD Limit
Alkalinity, Total	57.5	57.0	1	10



Form 7

Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : NA Lab Sample ID : WG1973760-2 Dup Sample ID :	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER LCS Analysis Date : 09/19/24 11:50 LCSD Analysis Date :

Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg CaCO3/L)	Found (mg CaCO3/L)	%R	True (mg CaCO3/L)	Found (mg CaCO3/L)	%R			
Alkalinity, Total	100.	101.	101.					90-110	10



Date Created: 11/11/21
Created By: Jason Hebert
File: PM11467-1
Page: 1

WETCHEM (WATER)

[illegible]

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Calculations of Alkalinity

$$\text{Alkalinity, mg CaCO}_3/\text{L} = \frac{A \times N \times 50,000}{\text{mL Sample}}$$

Where:

A = mL of the standard acid titrated

N = normality of the standard acid

Results are calculated using Mettler Toledo software.

Standard sample size is 50mL, 0.02N Sulfuric acid for titration

Sequence Logs

CAL	240914	LCS 7.0	7.05 INT:	MKT
pH 4	3295	Titrant:	4193	
pH 7	3386	LCS:	3257	
pH 10	3298	MS:	3255	
LCS	3409			

- 1 Rinse,MKT
- 2 Rinse,MKT
- 3 WG1973760-1
- 4 WG1973760-2
- 5 I2451391-03 5x+20
- 6 I2452439-04
- 7 I2452564-01 2X = 25 mL
- 8 I2452564-02 5X = 10 mL
- 9 I2453058-01 10X = 5 mL
- 10 WG1973760-3
- 11 WG1973760-4
- 12 I2453058-02
- 13 I2453058-03
- 14 I2453069-01
- 15 I2453069-02
- 16 I2453069-03
- 17 I2453072-01
- 18 I2453072-02
- 19 I2453072-05
- 20 I2453072-06
- 21 I2453072-07
- 22 I2453084-01
- 23 I2453084-02
- 24 I2453084-03
- 25 I2453084-04
- 26 I2453084-05
- 27 I2452439-04 2x
- 28 I2453072-01 2x+10
- 29 I2453072-02 2x+10
- 30 CCV
- 31 CCB

Cyanide Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/23/24 12:17
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,9010C/9012B	Analyst	: JER
Lab File ID	: TCN092324-A	Instrument ID	: LACHAT6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/21/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
57-12-5	Cyanide, Total	ND	0.005	0.001	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/23/24 12:22
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,9010C/9012B	Analyst	: JER
Lab File ID	: TCN092324-A	Instrument ID	: LACHAT6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/21/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
57-12-5	Cyanide, Total	ND	0.005	0.001	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/23/24 12:23
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,9010C/9012B	Analyst	: JER
Lab File ID	: TCN092324-A	Instrument ID	: LACHAT6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/21/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
57-12-5	Cyanide, Total	ND	0.005	0.001	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974685-1	Date Collected	: NA
Client ID	: WG1974685-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/23/24 12:13
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,9010C/9012B	Analyst	: JER
Lab File ID	: TCN092324-A	Instrument ID	: LACHAT6
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/21/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
57-12-5	Cyanide, Total	ND	0.005	0.001	U



Sample Raw Data

Original Run Filename: OM_9-23-2024_11-20-27AM.OMN Created: 9/23/2024 11:20:27 AM

Original Run Author's Signature: [wetchem16]

Current Run Filename: OM_9-23-2024_11-20-27AM.OMN Last Modified: 9/23/2024 12:46:12 PM

Current Run Author's Signature: [wetchem16]

Description: 10-204-00-1-A

Sample	Rep.	Cup No.	Channel 1 Cyanide (ug CN/ 50 mL)	ADF	MDF	Weight
25	1	S1	25.00000			
10	1	S2	10.00000			
5	1	S3	5.00000			
2	1	S4	2.00000			
1	1	S5	1.00000			
0.5	1	S6	0.50000			
0.2	1	S7	0.20000			
0	1	S8	0.00000			
CCV	1	S3	5.07338			
Known Conc:			0.10000			
Calibration:			Table/Fig. : 1			
CCB	1	S8	-0.08736			
Known Conc:			0.00000			
ICV 0.1	1	1	0.10067			50.00000 g
ICB	1	2	-0.00200			50.00000 g
LCS N-D 09/22	1	3	0.09879			50.00000 g
LCS N-D 09/23	1	4	0.09756			50.00000 g
DI B4 C1	1	5	0.09407			50.00000 g
DI B4 C2	1	6	0.01725			50.00000 g
DI B4 C1 (1)	1	7	0.02567			50.00000 g
DI B4 C2 (1)	1	8	0.00745			50.00000 g
DI B4 C1 (2)	1	9	0.00865			50.00000 g
DI B4 C2 (2)	1	10	0.00280			50.00000 g
CCV	1	S3	5.26688			
Known Conc:			0.10000			
CCB	1	S8	-0.12519			
Known Conc:			0.00000			
DI B4 C1 (3)	1	11	0.00635			50.00000 g
DI B4 C2 (3)	1	12	0.00451			50.00000 g
WG1974683-1	1	13	-0.00024			50.00000 g
WG1974683-2	1	14	0.09171			50.00000 g
LCS HIGH	1	15	0.13499			50.00000 g
L2452997-01	1	16	0.00140			50.00000 g
WG1974683-3	1	17	0.19385			50.00000 g
WG1974683-4	1	18	0.00089			50.00000 g
L2452997-02	1	19	0.00075			50.00000 g
L2453046-01	1	20	0.00291			50.00000 g
CCV	1	S3	5.28471			
Known Conc:			0.10000			
CCB	1	S8	-0.08155			
Known Conc:			0.00000			
L2453046-02	1	21	7.75507e-5			50.00000 g
L2453046-03	1	22	-0.00130			50.00000 g
L2453063-01	1	23	-0.00231			50.00000 g
L2453227-01	1	24	0.00128			50.00000 g
L2453317-02	1	25	0.00058			50.00000 g
L2453320-02	1	26	0.00083			50.00000 g
L2453433-01	1	27	0.00026			50.00000 g
L2453433-02	1	28	0.00055			50.00000 g
L2452655-01	1	29	0.01219			50.00000 g
L2453131-01	1	30	0.00094			50.00000 g
CCV	1	S3	5.29427			
Known Conc:			0.10000			
CCB	1	S8	-0.07965			
Known Conc:			0.00000			
L2453131-02	1	31	0.00079			50.00000 g
L2453250-01	1	32	0.00177			50.00000 g
L2453572-03	1	33	0.00085			50.00000 g
WG1974684-3	1	34	0.19765			50.00000 g

WG1974684

92%

67%

97%

RPD=NC

99%

WG1974686

WG1974684-4	1	35	-0.00174		50.00000 g	RPD=NC
WG1974685-1	1	36	-0.00166		50.00000 g	
WG1974685-2	1	37	0.09732		50.00000 g	97%
WG1974685-3	1	38	0.09356		50.00000 g	94%
LCS HIGH	1	39	0.18787		50.00000 g	94%
L2453058-01	1	40	-0.00322		50.00000 g	
CCV	1	S3	5.30207			
Known Conc:			0.10000			
CCB	1	S8	-0.10235			
Known Conc:			0.00000			
WG1974685-4	1	41	0.19353		50.00000 g	97%
WG1974685-5	1	42	0.20208		50.00000 g	101%
L2453058-02	1	43	-0.00333		50.00000 g	
L2453058-03	1	44	0.00075		50.00000 g	
L2453311-05	1	45	0.00013		50.00000 g	
L2453335-01	1	46	0.00100		50.00000 g	
L2453335-02	1	47	-9.79908e-5		50.00000 g	
L2453335-03	1	48	0.00076		50.00000 g	
L2453335-04	1	49	0.00081		50.00000 g	
L2453335-05	1	50	0.00246		50.00000 g	
CCV	1	S3	5.32584			
Known Conc:			0.10000			
CCB	1	S8	-0.11900			
Known Conc:			0.00000			
L2453335-06	1	51	0.00563		50.00000 g	
L2453051-01	1	52	-0.00143		50.00000 g	
WG1974686-4	1	53	0.20799		50.00000 g	104%
WG1974686-5	1	54	0.20411		50.00000 g	102%
L2453051-02	1	55	-0.00256		50.00000 g	
L2453124-05	1	56	-0.00166		50.00000 g	
L2453429-06	1	57	0.00024		50.00000 g	
CCV	1	S3	5.32158			
Known Conc:			0.10000			
CCB	1	S8	-0.10521			
Known Conc:			0.00000			

Channel 1 (Cyanide) - Current View

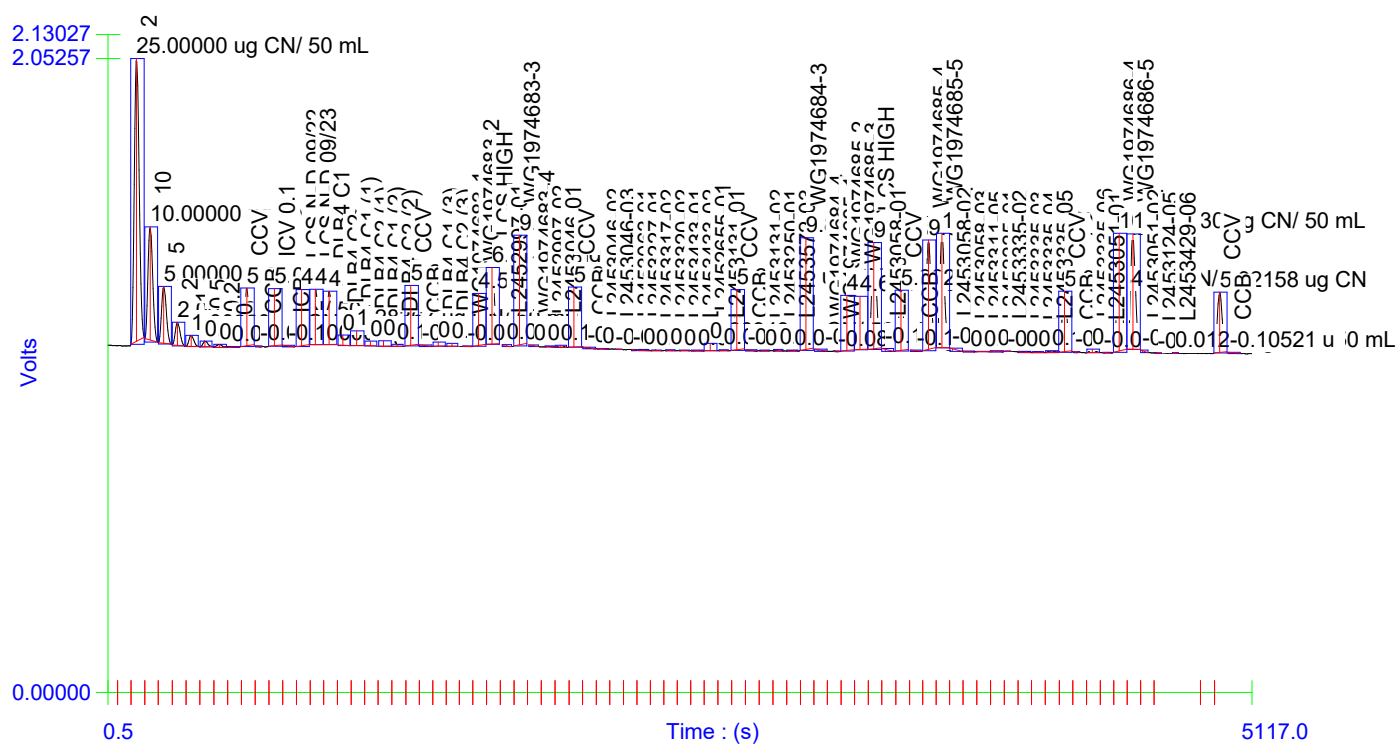
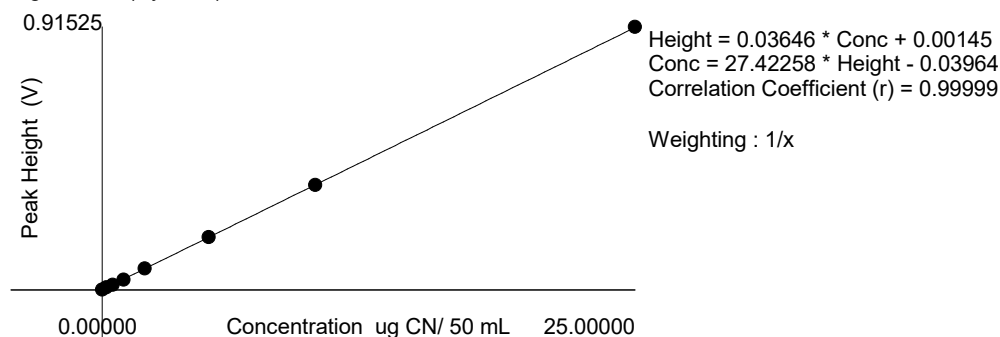


Table : 1 (Cyanide)

	Known Conc. (ug CN/ 50 mL)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (ug CN/ 50 mL)	Detection Date	Detection Time
1	25.00000	1	22.79399	0.91525	0.0	-0.3	25.05881	9/23/2024	11:21:28 AM
2	10.00000	1	8.88446	0.36586	0.0	0.0	9.99324	9/23/2024	11:22:28 AM
3	5.00000	1	4.48194	0.18371	0.0	0.0	4.99815	9/23/2024	11:23:29 AM
4	2.00000	1	1.83936	0.07498	0.0	-0.8	2.01651	9/23/2024	11:24:31 AM
5	1.00000	1	0.89448	0.03580	0.0	5.6	0.94216	9/23/2024	11:25:32 AM
6	0.50000	1	0.44838	0.01844	0.0	6.3	0.46609	9/23/2024	11:26:35 AM
7	0.20000	1	0.23485	0.00937	0.0	-7.2	0.21743	9/23/2024	11:27:37 AM
8	0.00000	1	0.02326	0.00166			0.00579	9/23/2024	11:28:40 AM

Figure : 1 (Cyanide)



Quality Control

Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : MW-15R Lab Sample ID : L2453058-01 Matrix Spike : WG1974685-4 Matrix Spike Dup : WG1974685-5	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER MS Analysis Date : 09/23/24 12:20 MSD Analysis Date : 09/23/24 12:21

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample			Matrix Spike Duplicate			RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Spike Added (mg/l)	Spike Conc. (mg/l)	%R			
Cyanide, Total	ND	0.2	0.194	97	0.2	0.202	101	4	80-120	20



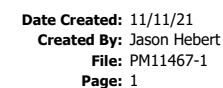
Form 7

Laboratory Control Sample

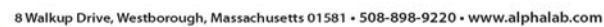
Client : Roux Env. Eng. & Geology, DPC
 Project Name : CORAM MATERIALS: CLOSED LF
 Client Sample ID : NA
 Lab Sample ID : WG1974685-2
 Dup Sample ID : WG1974685-3

Lab Number : L2453058
 Project Number : 2232.0006Y005
 Matrix : WATER
 LCS Analysis Date : 09/23/24 12:14
 LCSD Analysis Date : 09/23/24 12:15

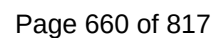
Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Cyanide, Total	0.100	0.0970	97.	0.100	0.093	94.	3	85-115	20

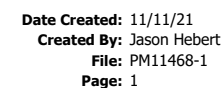
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Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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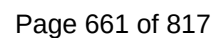


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Created By: Jason Hebert
File: PM11467-1
Page: 1

WETCHEM (WATER)

[illegible]

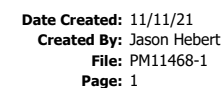
Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
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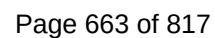


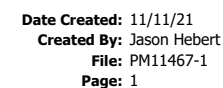
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Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

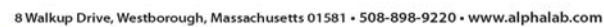


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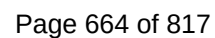


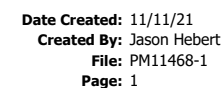
[illegible]

Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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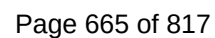


[illegible]

Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Calculations of Total Cyanide

Aqueous Samples

The instrument will calculate the concentration ($\mu\text{g}/50\text{mL}$).

$$\text{Result, mg/L} = C_s \times (1\text{mg}/1000\mu\text{g}) \times (1000\text{mL}/1\text{L}) \times (\text{DF})$$

Where:

C_s = Concentration of sample ($\mu\text{g}/50\text{mL}$)

DF = Dilution Factor

Soil or Solid Samples

Soil samples are calculated as follows:

$$\text{Result, mg/Kg} = \frac{C_s \times (1\text{mg}/1000\mu\text{g}) \times (1000\text{g}/1\text{Kg}) \times (\text{DF})}{A}$$

Where:

C_s = Concentration of sample ($\mu\text{g}/50\text{mL}$)

DF = Dilution Factor

$$A = \frac{\text{Sample weight (grams)}}{\text{Final Volume (50mL)}}$$

Dry weight correction

Dry weight correction is calculated as follows:

$$\text{Final concentration in mg/Kg, dry weight} = \frac{\text{Result, mg/Kg}}{\% \text{ solids}}$$

Where:

%solids = Percent Solids, as a decimal value



Calculations of Free Cyanide

Aqueous Samples:

Calculate the concentration value of the sample (in ug/L) directly from the standard curve in spectrophotometric sample:

$$\text{ugFCN/L} = \frac{\text{absorbance} - \text{y-intercept}}{\text{slope}} \times \text{Dilution}$$

$$\frac{\mu\text{g}}{\text{L}} \text{ free CN}^- \text{ in aqueous sample} =$$

$$\frac{1.3 \text{ mL (center chamber solution volume)}}{3.0 \text{ mL (outer chamber solution volume)}} \times \frac{\mu\text{g}}{\text{L}} \text{ free CN}^- \text{ in spectrophotometric sample}$$

Soil Samples:

$$\frac{\mu\text{g}}{\text{g}} \text{ free CN}^- \text{ in solid sample} = \frac{\mu\text{g}}{\text{L}} \text{ free CN}^- \text{ in extract sample} \times \frac{\text{Final extract solution volume (L)}}{\text{Sample mass (g)}}$$

To calculate final result for soil samples based on dry weight, multiply final result on 100 and divide on %TS (in %)

$$\text{FCN mg/kg (dry weight)} = \text{FCN mg/kg} \times 100 / \text{TS (\%)}$$

Sequence Logs

From Page No. TRAY A

1 TCN 0.1
 2 ICB
 3 CCSN-009122
 4 09123
 5 01B4C1
 6 B4C2
 7 B4C1
 8 B4C2
 9 B4C1
 10 B4C2
 11 B4C1
 12 B4C2
 13 WH 1974683-1 Blank
 14 (4684)-2 CCS
 15 CCSH
 16 52997-01
 17 -01ms
 18 -01ms
 19 -02
 20 53046-01
 21 -02
 22 -03
 23 53063-01
 24 53027-01
 25 53317-02
 26 53320-02
 27 53433-01
 28 -02
 29 52655-01
 30 53131-01
 31 -02
 32 53250-01
 33 53570-03
 34 -03ms
 35 -03ms
 36 WH 1974685-1 Blank
 37 (4686)-2 CCS

38 WH 1974685-3 CCS
 39 CCSH
 40 53058-01
 41 -01ms
 42 -01ms
 43 -02
 44 -03
 45 53311-05
 46 53335-01
 47 -02
 48 -03
 49 -04
 50 -05
 51 -06
 52 53051-01
 53 -01ms
 54 -01ms
 55 -02
 56 53124-05
 57 53424-06
 TRAY B
 1 WH 1974436-1 Blank
 2 -2 CCS
 3 -3 CCS
 4 CCSH
 5 52704-01
 6 -01ms
 7 -01ms
 8 -02
 9 -03
 10 -04
 11 -05
 12 -06
 13 -07
 14 -08
 15 52998-01
 16 53024-01
 17 -08

To Page No. _____

Witnessed & Understood by me, _____

Date _____

Invented by: _____

Date _____

Recorded by: _____

Project No. _____

Book No. _____

Confidential

TITLE TEN 09 23 24 JERFrom Page No. TRAY B (Cont.)

18 53024-03
 19 53039-01
 20 -01ms
 21 -01msD
 22 -02
 23 -03
 24 -04
 25 -05
 26 W091474437-1 Blank
 27 -2 LUS
 28 -3 LUSO
 29 LUSW
 30 53060-01
 31 -02
 32 -02ms
 33 -02msD
 34 -03
 35 -04
 36 -05
 37 53583-01
 38 -02
 39 -03
 40 -04
 41 -05
 42 -06
 43 53726-01
 44 -02
 45 -03
 46 -03ms
 47 -03msD
 48 52857-01
 TRAY C
 1 W091474454-1 Blank
 2 -2 LUS
 3 -3 LUSO
 4 LUSW
 5 52857-02

6 52857-03
 7 53039-06
 8 53127-01
 9 -02
 10 53145-01
 11 -02
 12 53209-02
 13 -03
 14 53291-01
 15 53311-01
 16 -02
 17 -03
 18 -04
 19 53429-03
 20 -02ms
 21 -03msD
 22 -04
 23 -04ms
 24 -04msD
 25 53680-02
 26 53726-04
 27 W091474456-1 Blank
 28 -2 LUS
 29 -3 LUSO
 30 LUSW
 31 53354-01
 32 -02
 33 -03
 34 -04
 35 -10
 36 -13
 37 -14
 38 -17
 39 53382-01
 40 53404-01
 41 -01ms
 42 -01msD
 43 -02

To Page No. _____

Witnessed & Understood by me,

Date

Invented by:

Date

Recorded by:

from Page No. TRAY C (cont.)

53409-02ms
-00ms0
-03
54429-01
-02

TRAY D

W1974767-1 Blank
-2 CS
-3 CS0

LCS Hi

53124-01
-02
-03
53209-01
-01ms
-01ms0

53424-05
53440-02
-03 -04
-05
-05 53621-01
53621-01 -02
-02 54083-01
54083-01 -01ms
-01ms0
-01ms0 -02
-02 54335-01
54335-01 5439-01
54397-01 -02
-02 -03
-03 -04
-04 W1974768-1 Blank
-2 CS
-3 CS0

LCS Hi

53621-03
53680-03

32 53680-04
33 -05
34 -06
35 53704-01
36 -01ms
37 -01ms0
38 53989-01
39 -01ms
40 -01ms0
41 -02
42 -03
43 -04
44 -05
45 -06
46 -07
47 -08

JER 09 83 24

Witnessed & Understood by me,

Date

Invented by:

Recorded by:

Pyridine-Barbituric: TCN- 091824 -BR
Acetate Buffer: TCN- 091624 -AB
Chloramine-T: TCN- 091324 -CT
Sodium Hydroxide: TCN- 091424

Sample Preparation

WG1974684

WG1974683

WG1974686

WG1974685

Block ID:

244

Sulfamic Acid, 0.4N	Sulfuric Acid, 50%	MgCl ₂ , 2.5M	NaOH, 1N	LCS, 10ppm	MS, 10ppm
Lot#: TCN- 9 15 24	Lot#: TCN- 9 15 24	Lot#: TCN- 9 15 24	Lot#: TCN- 9 21 24	Lot#: TCN- 9 21 24	Lot#: TCN- 9 21 24

Tube ID	Sample	Date	Analyst	Vol. (mL)	pH	pH	Cl ₂	Cl ₂	S-2	S-2	Spike Vol (mL)	Sulfamic Acid (mL)	H ₂ SO ₄ (mL)	MgCl ₂ (mL)	NaOH (mL)	Final Vol (mL)	Comment
					Adjusted	Check	Check	Check	Check	Check							
1	Blank	9 21 24	DWH	50	-	-	-	-	-	-	-	5	5	2	5	50	Start 1840
2	LH Hi				-	-	-	-	-	-	1						Step 2030
3	LES				-	-	-	-	-	-	0.5						
4	52997-01				>14	-	-	-	-	-	-						
5	-01ms				>12	-	-	-	-	-	1						
6	-01 bvp				>12	-	-	-	-	-	-						
7	-02				>12	-	-	-	-	-	-						
8	53046-01				>12	-	-	-	-	-	-						
9	-02				>12	-	-	-	-	-	-						
10	-03				>12	-	-	-	-	-	-						
11	D1				>12	-	-	-	-	-	-						
12	D1				>12	-	-	-	-	-	-						
13	53063-01				>12	-	-	-	-	-	-						
14	53227-01				>12	-	-	-	-	-	-						
15	53317-02				>12	-	-	-	-	-	-						
16	53320-02				>12	-	-	-	-	-	-						
17	53433-01				>12	-	-	-	-	-	-						
18	-02				>12	-	-	-	-	-	-						
19	52655-01				>12	-	-	-	-	-	-						
20	53131-01				>12	-	-	-	-	-	-						

Block ID: 316

Sulfamic Acid, 0.4N Sulfuric Acid, 50% MgCl₂, 2.5M NaOH, 1N LCS, 10ppm MS, 10ppm
 Lot#: TCN- 9 15 24 Lot#: TCN- 9 15 24 Lot#: TCN- 9 15 24 Lot#: TCN- 9 21 24 Lot#: TCN- 9 21 24 Lot#: TCN- 9 21 24

Tube ID	Sample	Date	Analyst	Vol. (mL)	pH		Cl ₂ Check	Cl ₂ treated	S ₂ Check	S ₂ treated	Spike Vol (mL)	Sulfamic Acid (mL)	H ₂ SO ₄ (mL)	MgCl ₂ (mL)	NaOH (mL)	Final Vol (mL)	Comment
					Adjusted												
1	53131-02	9 21 24	DWH	50	>12		-		-		-	5	5	2	5	50	
2	53250-01				>12		-		-		-						Start 18 40
3	53572-03				>12		-		-		-						Stop 20 30
4	-03 MS				>12		-		-		-						
5	-03 DUP				>12		-		-		-						
6	Blank				-		-		-		-						
7	LCS Hi				-		-		-		-						
8	LCS				-		-		-		0.5						
9	LCS				-		-		-		0.5						
10	53058-01				>12		-		-		-						
					-		-		-		-						
11	-01 MS				>12		-		-		-						
12	-01 MSD				>12		-		-		-						
13	-02				>12		-		-		-						
14	-03				>12		-		-		-						
15	53311-05				>12		-		-		-						
16	53335-01				>12		-		-		-						
17	-02				>12		-		-		-						
18	-03				>12		-		-		-						
19	-04				>12		-		-		-						
20	-05				>12		-		-		-						

Block ID: 1

Sulfamic Acid, 0.4N	Sulfuric Acid, 50%	MgCl ₂ , 2.5M	NaOH, 1N	LCS, 10ppm	MS, 10ppm
Lot#: TCN- <u>91524</u>	Lot#: TCN- <u>91524</u>	Lot#: TCN- <u>91524</u>	Lot#: TCN- <u>92124</u>	Lot#: TCN- <u>92124</u>	Lot#: TCN- <u>92124</u>

Tube ID	Sample	Date	Analyst	Vol. (mL)	pH	Cl2	Cl2	S-2	S-2	Spike	Sulfamic	H2SO4	MgCl2	NaOH	Final Vol	Comment
					Adjusted	Check	treated	Check	treated	Vol (mL)	Acid (mL)	(mL)	(mL)	(mL)	(mL)	
1	53335-06	7 21 24	DWH	50	7.2	-		-		-	5	5	2	5	50	Start 18 40 Stop 20 30
2	53051-01	↓	↓	↓	7.2	-		-		-						
3	-01 MS				7.2	-		-	1							
4	-01 MS				7.2	-		-	1							
5	-02				7.2	-		-	-							
6	53124-05				7.2	-		-	-							
7	53429-06				7.2	-		-	-							
8	DWH 9 21 24															
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																

DWH
 9 21 24

Hexavalent Chromium Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/17/24 06:39
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,7196A	Analyst	: CAR
Lab File ID	: WG1972408.csv	Instrument ID	: GENSYS 10S
Sample Amount	: 50	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/17/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
18540-29-9	Chromium, Hexavalent	ND	0.010	0.003	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/17/24 06:40
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,7196A	Analyst	: CAR
Lab File ID	: WG1972408.csv	Instrument ID	: GENSYS 10S
Sample Amount	: 50	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/17/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
18540-29-9	Chromium, Hexavalent	ND	0.010	0.003	U

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/17/24 06:40
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,7196A	Analyst	: CAR
Lab File ID	: WG1972408.csv	Instrument ID	: GENSYS 10S
Sample Amount	: 50	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/17/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
18540-29-9	Chromium, Hexavalent	ND	0.010	0.003	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1972408-1	Date Collected	: NA
Client ID	: WG1972408-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/17/24 06:39
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,7196A	Analyst	: CAR
Lab File ID	: WG1972408.csv	Instrument ID	: GENSYS 10S
Sample Amount	: 50	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/17/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
18540-29-9	Chromium, Hexavalent	ND	0.010	0.003	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1972408-3	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/17/24 06:40
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,7196A	Analyst	: CAR
Lab File ID	: WG1972408.csv	Instrument ID	: GENSYS 10S
Sample Amount	: 50	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/17/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
18540-29-9	Chromium, Hexavalent	ND	0.010	0.003	U



Sample Raw Data

ALPHA ANALYTICAL
WET CHEMISTRY DEPARTMENT
CHROMIUM, HEXAVALENT

Last Change 3/4/13 gtf
File HEXCR-L.xlt

SOP No.: 07-12

Product: HEXCR-7196

Curve Calibration Date : 3/7/2024

Curve Identifier: 030724

Analysis: Hexavalent Chromium

Analyte: Chromium, Hexavalent

Method: EPA 7196A

Prep Date/Time: 9/17/24 6:15

Instrument: GENSYS 10S UV-VIS SPEC3

Technician: CAR

Wavelength: 540 nm

Work group: WG1972408

Spike Volume(ml): 1

RDL: 0.01 mg/l

Spike Solution (mg/l): 5

Get Samples

Save to LIMS

Standard ID	Mean signal	Calibration Curve		Reagents/Media Information	
	(pk area)	Volume: 50 ml		Material	Lot No.
0	0.000	abs	Slope	y-intercept	Calibration Stds.: HEX_030724_1PPM
0.005	0.012		1.732339	0.004234997	ICV/LCS: hex_082824_lcs
0.01	0.020				CCV: hex_082824_lcs
0.02	0.039				MS (K ₂ Cr ₂ O ₇): hex_061424_Ms
0.05	0.091		Correlation Coefficient		10% H ₂ SO ₄ : hex_082824_h2so4
0.1	0.180		0.999925		Diphenylcarbazide: hex_090524_color
0.2	0.358				NaOH (1N): R-4137
0.5	0.867				Filter Lot: FL8131
ICV/LCS Concentration (mg/l) =		0.20			

CHOOSE METHOD

HEXCR-7196

TCLP-HE

HEXCR-3500

HEXC

HEXCR-7196-PPB

HEXCR-3500-PPB

SPLP-HEXCR

Time	Date	Sample number	Sample Volume (ml)	Final Volume (ml)	Absorbance	Background Absorbance	Net Absorbance	RESULT (mg/l)	Dilution Factor	RDL Multiplier	FINAL RESULT (mg/l)	Recovery %
6:39	9/17/2024	BLANK	50	50	0.003		0.003	0.000	1	1.0	0.000	102%
6:39	9/17/2024	ICV/LCS	50	50	0.358		0.358	0.204	1	1.0	0.204	
6:39	9/17/2024	L2453058-01	50	50	0.004		0.004	0.000	1	1.0	0.000	
6:40	9/17/2024	L2453058-02	50	50	0.005		0.005	0.000	1	1.0	0.000	
6:40	9/17/2024	L2453058-03	50	50	0.005		0.005	0.000	1	1.0	0.000	
6:42	9/17/2024	CCV	50	50	0.351		0.351	0.200	1	1.0	0.200	
6:42	9/17/2024	CCB	50	50	0.002		0.002	0.000	1	1.0	0.000	
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		
			50	50					1	1.0		DUP
6:39	9/17/2024	WG1972408-1	50	50	0.003		0.003	0.000	1	1.0	0.000	
6:40	9/17/2024	WG1972408-3	50	50	0.005		0.005	0.000	1	1.0	0.000	
		Sample number	Sample volume	Final volume (ml)	Absorbance	Background Absorbance	Net Absorbance	Sample Result mg/l	Dilution Factor	Spike conc. mg/l	Spike Result mg/l	Recovery %
6:41	9/17/2024	WG1972408-4	50	50	0.174		0.174	0.000	1	0.1	0.098	98
6:41	9/17/2024	WG1972408-5	50	50	0.166		0.166	0.000	1	0.1	0.093	93
6:39	9/17/2024	WG1972408-2	50	50	0.358		0.358		1	0.20	0.204	102%
			50	50					1	0.20		

[illegible]

Quality Control

Form 5a Matrix Spike

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01		
Matrix Spike	: WG1972408-4	MS Analysis Date	: 09/17/24 06:41
Matrix Spike Dup	: WG1972408-5	MSD Analysis Date	: 09/17/24 06:41

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample			Matrix Spike Duplicate			RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Spike Added (mg/l)	Spike Conc. (mg/l)	%R			
Chromium, Hexavalent	ND	0.1	0.098	98	0.1	0.093	93	5	85-115	20

Form 6

Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/17/24 06:39
Dup Sample ID	: WG1972408-3	DUP Analysis Date	: 09/17/24 06:40

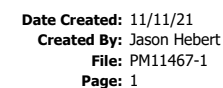
Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Chromium, Hexavalent	ND	ND	NC	20

Form 7

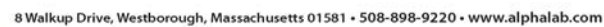
Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC
 Project Name : CORAM MATERIALS: CLOSED LF
 Client Sample ID : NA
 Lab Sample ID : WG1972408-2
 Dup Sample ID :
 Lab Number : L2453058
 Project Number : 2232.0006Y005
 Matrix : WATER
 LCS Analysis Date : 09/17/24 06:39
 LCSD Analysis Date :

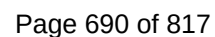
Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Chromium, Hexavalent	0.200	0.204	102.					85-115	20

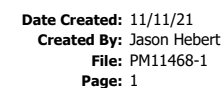
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Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
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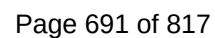


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Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Calculations of Hexavalent Chromium

Aqueous samples:

$$\text{mg Cr}^{+6}/\text{L} = \left(\frac{\text{absorbance} - \text{y-intercept}}{\text{slope}} \times \text{dilution} \right)$$

Solid samples:

$$\text{mg Cr}^{+6}/\text{Kg} = \left(\frac{\text{absorbance} - \text{y-intercept}}{\text{slope}} \right) \times \left(\frac{\text{dilution} \times 0.1\text{L (final volume)}}{\text{weight (Kg) of sample}} \right)$$

Total Phenol Analysis

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 14:52
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,420.1	Analyst	: JBB
Lab File ID	: PHENOL09202024-WG1974205,	Instrument ID	: SEAL2
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/20/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Phenolics, Total	ND	0.030	0.006	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 14:55
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,420.1	Analyst	: JBB
Lab File ID	: PHENOL09202024-WG1974205,	Instrument ID	: SEAL2
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/20/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Phenolics, Total	ND	0.030	0.006	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 14:55
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,420.1	Analyst	: JBB
Lab File ID	: PHENOL09202024-WG1974205,	Instrument ID	: SEAL2
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/20/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Phenolics, Total	ND	0.030	0.006	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974205-1	Date Collected	: NA
Client ID	: WG1974205-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/20/24 14:28
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,420.1	Analyst	: JBB
Lab File ID	: PHENOL09202024-WG1974205,	Instrument ID	: SEAL2
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/20/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Phenolics, Total	ND	0.030	0.006	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974205-3	Date Collected	: 09/10/24 12:00
Client ID	: WG1974205-3 DUP	Date Received	: 09/10/24
Sample Location	:	Date Analyzed	: 09/20/24 14:31
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,420.1	Analyst	: JBB
Lab File ID	: PHENOL09202024-WG1974205,	Instrument ID	: SEAL2
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/20/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Phenolics, Total	ND	0.030	0.01	U



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974205-5	Date Collected	: 09/16/24 11:15
Client ID	: MW-15RDUP	Date Received	: 09/16/24
Sample Location	:	Date Analyzed	: 09/20/24 14:53
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 4,420.1	Analyst	: JBB
Lab File ID	: PHENOL09202024-WG1974205,	Instrument ID	: SEAL2
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	: 09/20/24

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
NONE	Phenolics, Total	ND	0.030	0.01	U



Sample Raw Data

AQ400Tray Report



Software version : 2.4.5
Report requested by : jbsoumai
Date \ Time : 20-Sep-2024 15:29:11
Tray number : 3
Tray name : 24.09.20 WG1974205;213

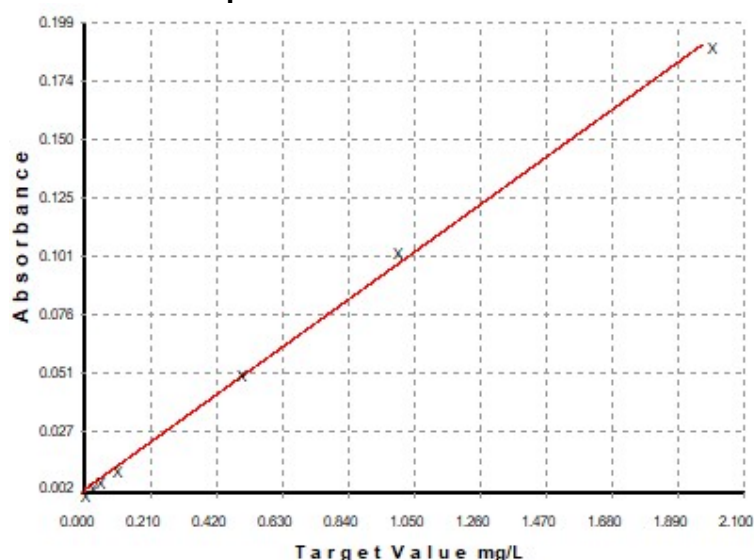
Phenolics

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0021	-0.015	0.000	
S90	0.0050	0.016	0.027	-40.37
S91	0.0073	0.041	0.049	-16.63
S92	0.0126	0.096	0.102	-6.08
S93	0.0522	0.516	0.502	2.75
S94	0.1034	1.058	1.000	5.75
S95	0.1895	1.968	2.000	-1.58
S0	0.0023	-0.012	0.000	

Polynomial Order : 1
Correlation Coefficient : 0.9993
Carryover(%) : 0.1
Calibration equation: $y = bx + a$
y =: Concentration mg/L
x =: Measured absorbance
a =: -3.701493E-02
b =: 1.058526E+01
Date & Time : 20-Sep-2024 14:26:05

Calibration Graph



Reagents

Reagent Name	Batch Number	Operator	Expiry Date
4-Aminoantipyrine			
Buffered Potassium Ferricyanide			

Test Results

Cup	Type	ID	Result	Units	Raw Data	Auto Dil.	Man Dil.	User	Time & Date
	S1	Standard 1	0.002		0.002112			JBB	20-Sep-2024 14:19:32
	S90	Standard 90	0.005		0.004999			JBB	20-Sep-2024 14:20:29
	S91	Standard 91	0.007		0.007347			JBB	20-Sep-2024 14:21:25
	S92	Standard 92	0.013		0.012567			JBB	20-Sep-2024 14:22:21
	S93	Standard 93	0.052		0.052248			JBB	20-Sep-2024 14:23:17
	S94	Standard 94	0.103		0.103401			JBB	20-Sep-2024 14:24:12
	S95	Standard 95	0.189		0.189457			JBB	20-Sep-2024 14:25:08
	S0	Standard 0	0.002		0.002344			JBB	20-Sep-2024 14:26:05
2	ICV	ICV	0.417	mg/L	0.042876			JBB	20-Sep-2024 14:27:01
3	ICB	ICB	-0.012	mg/L	0.002363			JBB	20-Sep-2024 14:27:57
4	U1	WG1974205-1	0.002	mg/L	0.003714		x0.9090	JBB	20-Sep-2024 14:28:52
5	U2	WG1974205-2	0.401	mg/L	0.045152		x0.9090	JBB	20-Sep-2024 14:29:48
6	U3	L2451391-13	0.003	mg/L	0.003759		x0.9090	JBB	20-Sep-2024 14:30:45
7	U4	WG1974205-3	-0.000	mg/L	0.003458		x0.9090	JBB	20-Sep-2024 14:31:41
8	U5	WG1974205-4	0.351	mg/L	0.040022		x0.9090	JBB	20-Sep-2024 14:32:37
9	U6	L2451391-14	-0.011	mg/L	0.002362		x0.9090	JBB	20-Sep-2024 14:33:32
10	U7	L2451391-15	-0.009	mg/L	0.002566		x0.9090	JBB	20-Sep-2024 14:34:28
11	U8	L2451391-16	0.019	mg/L	0.005427		x0.9090	JBB	20-Sep-2024 14:35:25
12	U9	L2451391-17	-0.004	mg/L	0.003114		x0.9090	JBB	20-Sep-2024 14:36:21

13	U10	L2451391-18	0.007	mg/L	0.004251	x0.9090	JBB	20-Sep-2024 14:37:17
	CCV	CCV	1.020	mg/L	0.099833		JBB	20-Sep-2024 14:38:12
	CCB	CCB	-0.013	mg/L	0.002285		JBB	20-Sep-2024 14:39:08
14	U11	L2451391-19	0.026	mg/L	0.006170	x0.9090	JBB	20-Sep-2024 14:40:05
15	U12	L2451391-20	-0.008	mg/L	0.002665	x0.9090	JBB	20-Sep-2024 14:41:01
16	U13	L2451391-21	-0.011	mg/L	0.002355	x0.9090	JBB	20-Sep-2024 14:41:57
17	U14	L2451391-22	0.017	mg/L	0.005234	x0.9090	JBB	20-Sep-2024 14:42:52
18	U15	L2451391-23	0.001	mg/L	0.003572	x0.9090	JBB	20-Sep-2024 14:43:48
19	U16	L2451391-24	0.025	mg/L	0.006115	x0.9090	JBB	20-Sep-2024 14:44:45
20	U17	L2451391-25	0.024	mg/L	0.005995	x0.9090	JBB	20-Sep-2024 14:45:41
21	U18	L2451391-26	-0.010	mg/L	0.002458	x0.9090	JBB	20-Sep-2024 14:46:37
22	U19	L2452740-01	-0.007	mg/L	0.002720	x0.9090	JBB	20-Sep-2024 14:47:33
23	U20	L2452758-02	0.037	mg/L	0.007325	x0.9090	JBB	20-Sep-2024 14:48:29
	CCV	CCV	1.011	mg/L	0.098982		JBB	20-Sep-2024 14:49:25
	CCB	CCB	-0.013	mg/L	0.002306		JBB	20-Sep-2024 14:50:21
24	U21	L2452763-02	0.096	mg/L	0.013515	x0.9090	JBB	20-Sep-2024 14:51:17
25	U22	L2453058-01	-0.010	mg/L	0.002473	x0.9090	JBB	20-Sep-2024 14:52:13
26	U23	WG1974205-5	-0.005	mg/L	0.002946	x0.9090	JBB	20-Sep-2024 14:53:09
27	U24	WG1974205-6	0.401	mg/L	0.045169	x0.9090	JBB	20-Sep-2024 14:54:05
28	U25	L2453058-02	0.003	mg/L	0.003831	x0.9090	JBB	20-Sep-2024 14:55:01
29	U26	L2453058-03	-0.010	mg/L	0.002411	x0.9090	JBB	20-Sep-2024 14:55:57
30	U27	WG1974213-1	-0.012	mg/L	0.002341		JBB	20-Sep-2024 14:56:29
31	U28	WG1974213-2	0.428	mg/L	0.043974		JBB	20-Sep-2024 14:57:23
32	U29	L2452759-02	-0.010AVF	mg/L	0.002533		JBB	20-Sep-2024 15:21:58
32	U29	L2452759-02	0.033	mg/L	0.006660		JBB	20-Sep-2024 14:58:18
33	U30	WG1974213-3	-0.009AVF	mg/L	0.002638		JBB	20-Sep-2024 15:22:54
33	U30	WG1974213-3	0.029	mg/L	0.006258		JBB	20-Sep-2024 14:59:14
	CCV	CCV	1.011	mg/L	0.098969		JBB	20-Sep-2024 15:23:50
	CCV	CCV	1.039	mg/L	0.101619		JBB	20-Sep-2024 15:00:10
	CCB	CCB	-0.013	mg/L	0.002291		JBB	20-Sep-2024 15:24:46
	CCB	CCB	-0.012	mg/L	0.002324		JBB	20-Sep-2024 15:01:06
34	U31	WG1974213-4	0.415	mg/L	0.042676		JBB	20-Sep-2024 15:02:02
	CCV	CCV	1.033	mg/L	0.101087		JBB	20-Sep-2024 15:02:58
	CCB	CCB	-0.012	mg/L	0.002321		JBB	20-Sep-2024 15:03:54
	CCV	CCV	1.009	mg/L	0.098804		JBB	20-Sep-2024 15:20:06
	CCB	CCB	-0.014	mg/L	0.002211		JBB	20-Sep-2024 15:21:02
	CCV	CCV	1.019	mg/L	0.099747		JBB	20-Sep-2024 15:25:42
	CCB	CCB	-0.010	mg/L	0.002530		JBB	20-Sep-2024 15:26:38

Quality Control

Form 5a Matrix Spike

Client : Roux Env. Eng. & Geology, DPC	Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF	Project Number : 2232.0006Y005
Client Sample ID : NA	Matrix : WATER
Lab Sample ID : L2451391-13	
Matrix Spike : WG1974205-4	MS Analysis Date : 09/20/24 14:32
Matrix Spike Dup :	MSD Analysis Date :

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Phenolics, Total	ND	0.4	0.35	88					70-130	20

Form 5a Matrix Spike

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01		
Matrix Spike	: WG1974205-6	MS Analysis Date	: 09/20/24 14:54
Matrix Spike Dup	:	MSD Analysis Date	:

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample		%R	Matrix Spike Duplicate		%R	RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)		Spike Added (mg/l)	Spike Conc. (mg/l)				
Phenolics, Total	ND	0.4	0.40	100					70-130	20

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: NA	Matrix	: WATER
Lab Sample ID	: NA	Analysis Date	: 09/20/24 14:30
Dup Sample ID	: WG1974205-3	DUP Analysis Date	: 09/20/24 14:31

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Phenolics, Total	ND	ND	NC	20

Form 6 Lab Duplicates

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Client Sample ID	: MW-15R	Matrix	: WATER
Lab Sample ID	: L2453058-01	Analysis Date	: 09/20/24 14:52
Dup Sample ID	: WG1974205-5	DUP Analysis Date	: 09/20/24 14:53

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Phenolics, Total	ND	ND	NC	20

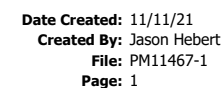
Form 7

Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC
 Project Name : CORAM MATERIALS: CLOSED LF
 Client Sample ID : NA
 Lab Sample ID : WG1974205-2
 Dup Sample ID :
 Lab Number : L2453058
 Project Number : 2232.0006Y005
 Matrix : WATER
 LCS Analysis Date : 09/20/24 14:29
 LCSD Analysis Date :

Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Phenolics, Total	0.400	0.400	100.					70-130	20

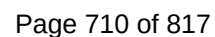


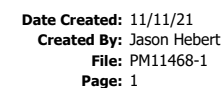
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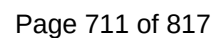


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Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



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Calculations of TPhenol

Aqueous samples:

Calculate the concentration value of the sample directly from the standard curve.

$$\text{Mg Phenolics/L} = \frac{\text{absorbance} - \text{y-intercept}}{\text{slope}} \times \text{Dilution Factor}$$

Wet Chemistry
By
IC Methods

Results

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-01	Date Collected	: 09/16/24 11:15
Client ID	: MW-15R	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 15:18
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,300.0	Analyst	: CVN,
Lab File ID	: WG1974204	Instrument ID	: IC3
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
24959-67-9	Bromide	ND	0.050	0.013	U
16887-00-6	Chloride	1.71	0.500	0.083	
14808-79-8	Sulfate	4.30	1.00	0.454	

Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-02	Date Collected	: 09/16/24 12:45
Client ID	: MW-1DR	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 15:30
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,300.0	Analyst	: CVN,
Lab File ID	: WG1974204	Instrument ID	: IC3
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
24959-67-9	Bromide	ND	0.050	0.013	U
16887-00-6	Chloride	22.8	0.500	0.083	
14808-79-8	Sulfate	18.1	1.00	0.454	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: L2453058-03	Date Collected	: 09/16/24 12:00
Client ID	: DUP_091624	Date Received	: 09/16/24
Sample Location	: 416 MILLER PLACE-YAPHANK ROAD	Date Analyzed	: 09/20/24 15:42
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,300.0	Analyst	: CVN,
Lab File ID	: WG1974204	Instrument ID	: IC3
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
24959-67-9	Bromide	ND	0.050	0.013	U
16887-00-6	Chloride	22.8	0.500	0.083	
14808-79-8	Sulfate	18.1	1.00	0.454	



Form 1

WETCHEM

Client	: Roux Env. Eng. & Geology, DPC	Lab Number	: L2453058
Project Name	: CORAM MATERIALS: CLOSED LF	Project Number	: 2232.0006Y005
Lab ID	: WG1974204-4	Date Collected	: NA
Client ID	: WG1974204-4BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 09/20/24 16:54
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 44,300.0	Analyst	: CVN,
Lab File ID	: WG1974204	Instrument ID	: IC3
Sample Amount	:	%Solids	: N/A
Digestion Method	:	Date Digested	:

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
24959-67-9	Bromide	ND	0.050	0.013	U
16887-00-6	Chloride	0.222	0.500	0.083	J
14808-79-8	Sulfate	ND	1.00	0.454	U

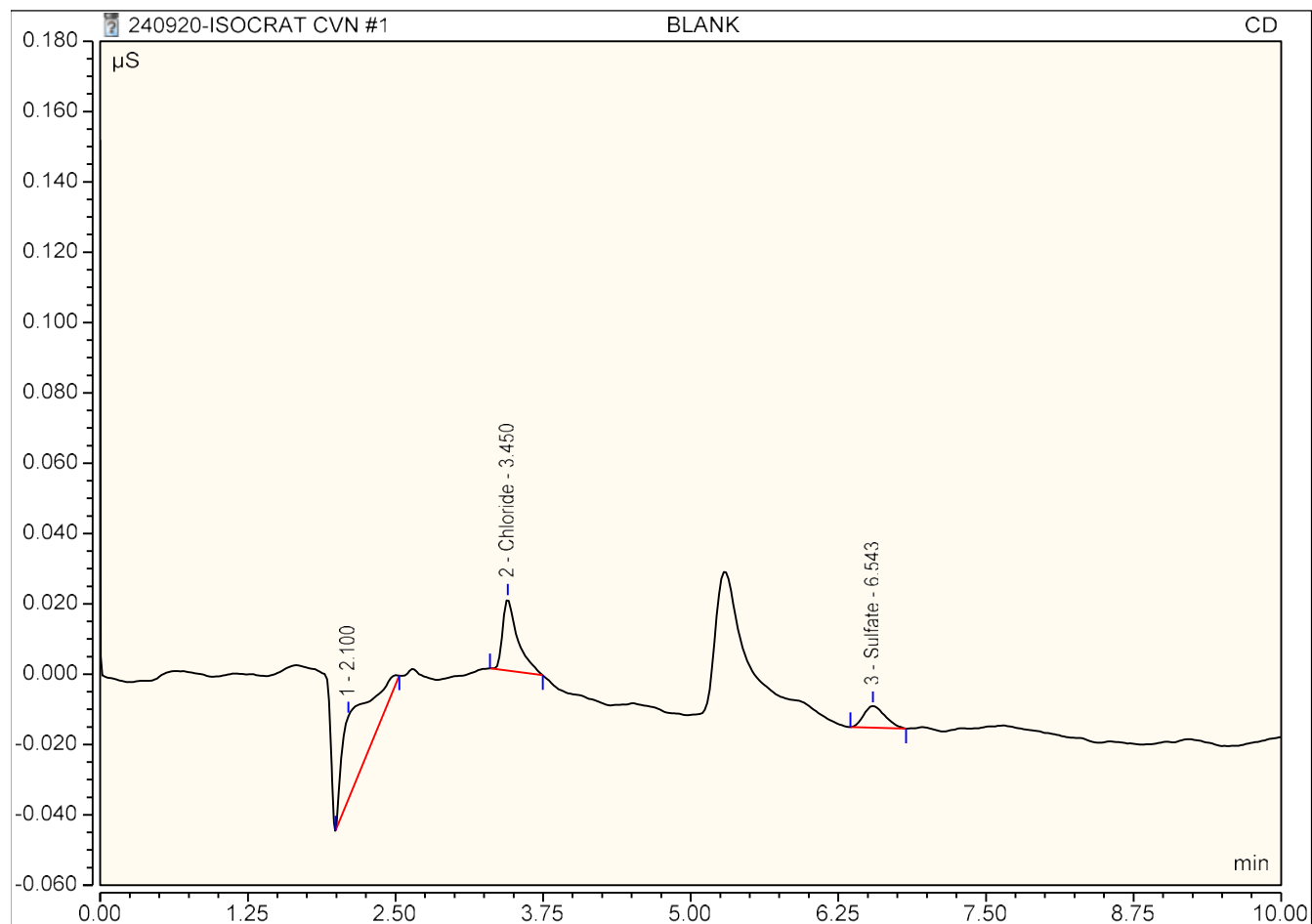


Sample Raw Data

Peak Integration Report

Sample Name:	BLANK	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	05-Sep-2024 / 16:08	Run Time:	10.00

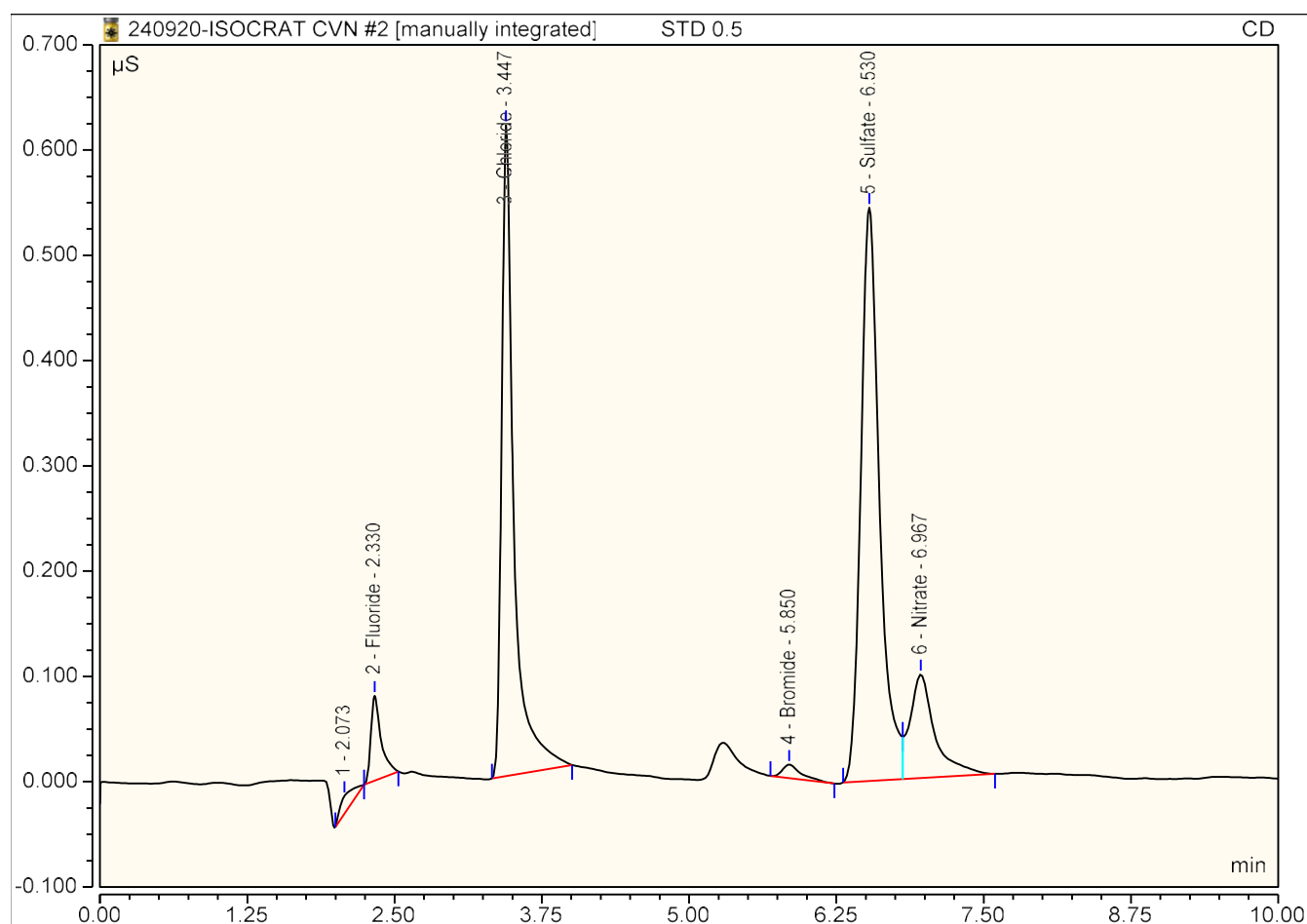
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	3.45	Chloride	BMB	0.003	0.020	0.2129
3	6.54	Sulfate	BMB	0.001	0.006	0.2810
TOTAL:				0.00	0.03	0.49



Peak Integration Report

Sample Name:	STD 0.5	Inj. Vol.:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	05-Sep-2024 / 16:20	Run Time:	10.00

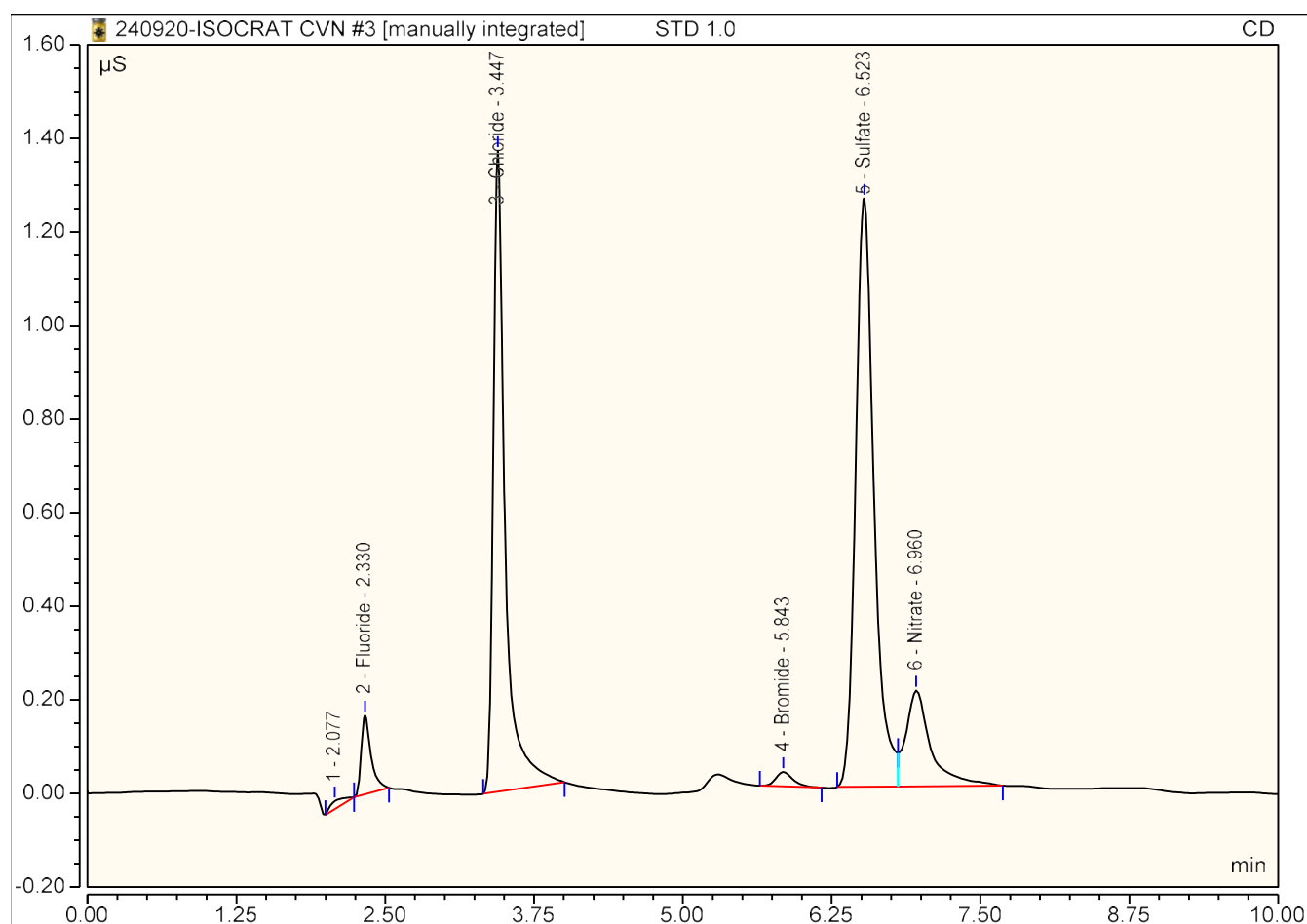
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.33	Fluoride	BMB	0.008	0.081	0.0592
3	3.45	Chloride	BMB*	0.074	0.618	0.3873
4	5.85	Bromide	BMB	0.002	0.013	0.0525
5	6.53	Sulfate	BM *	0.100	0.545	0.6237
6	6.97	Nitrate	MB*	0.024	0.098	0.0442
TOTAL:				0.21	1.35	1.17



Peak Integration Report

Sample Name:	STD 1.0	Inj. Vol.:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	05-Sep-2024 / 16:33	Run Time:	10.00

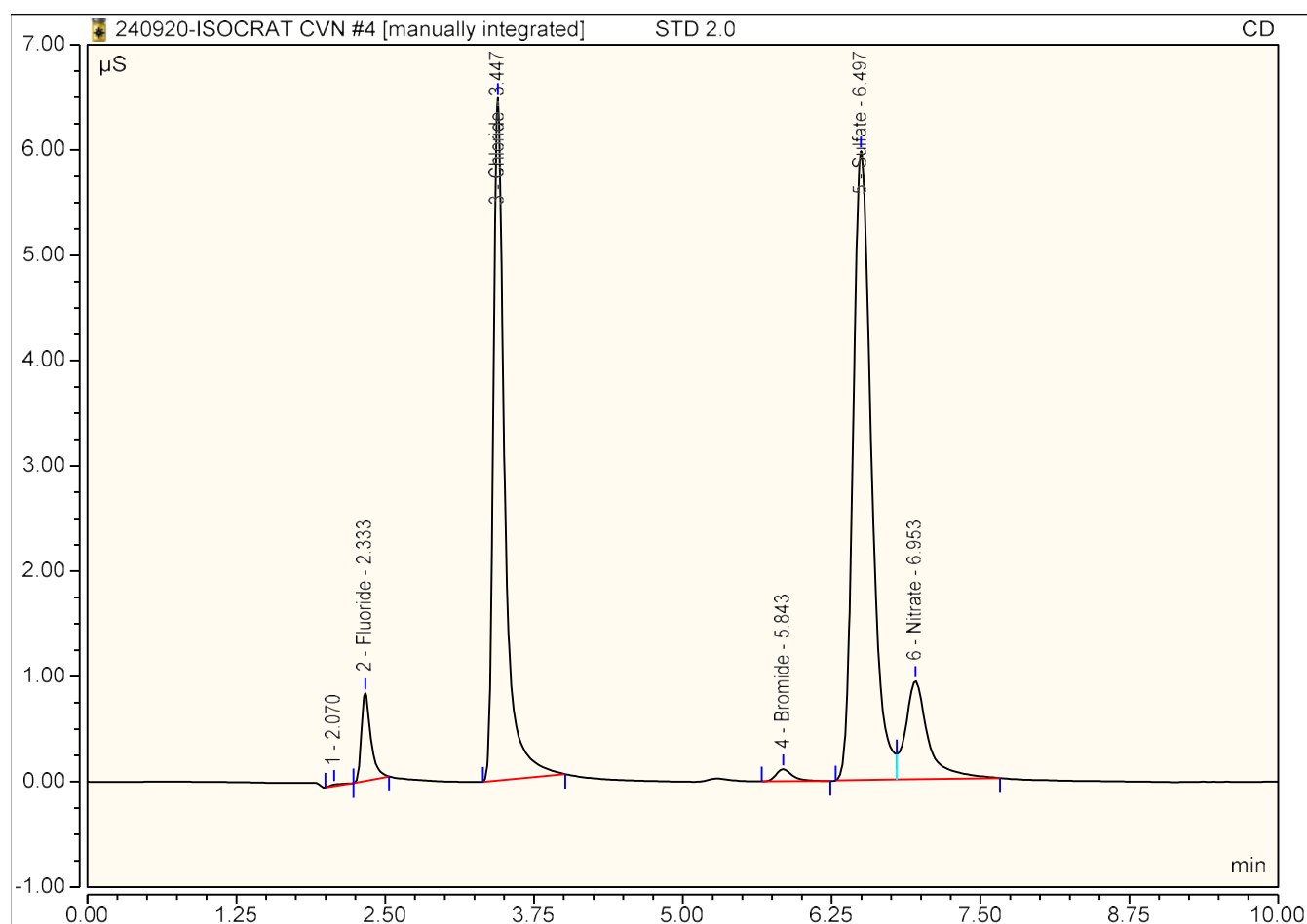
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.33	Fluoride	BMB	0.016	0.169	0.0738
3	3.45	Chloride	BMB*	0.159	1.370	0.5947
4	5.84	Bromide	BMB	0.005	0.031	0.0753
5	6.52	Sulfate	BM *	0.223	1.257	1.0491
6	6.96	Nitrate	MB*	0.050	0.205	0.0646
TOTAL:				0.45	3.03	1.86



Peak Integration Report

Sample Name:	STD 2.0	Inj. Vol.:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	05-Sep-2024 / 16:45	Run Time:	10.00

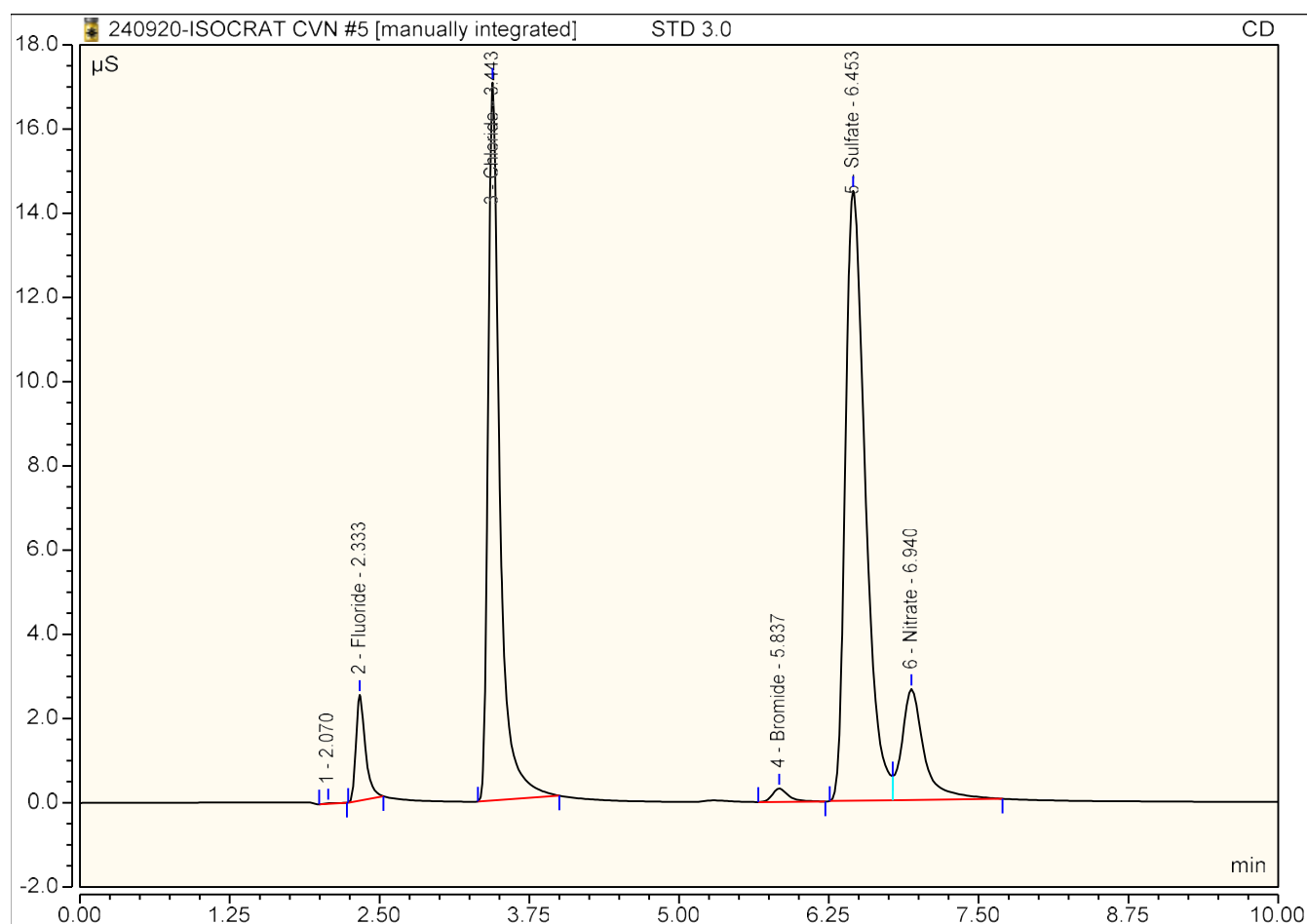
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.33	Fluoride	BMB	0.077	0.836	0.1840
3	3.45	Chloride	BMB*	0.734	6.483	1.9971
4	5.84	Bromide	BMB	0.019	0.116	0.1890
5	6.50	Sulfate	BM *	1.064	5.973	3.9561
6	6.95	Nitrate	MB*	0.206	0.936	0.1868
TOTAL:				2.10	14.34	6.51



Peak Integration Report

Sample Name:	STD 3.0	Inj. Vol.:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	05-Sep-2024 / 16:57	Run Time:	10.00

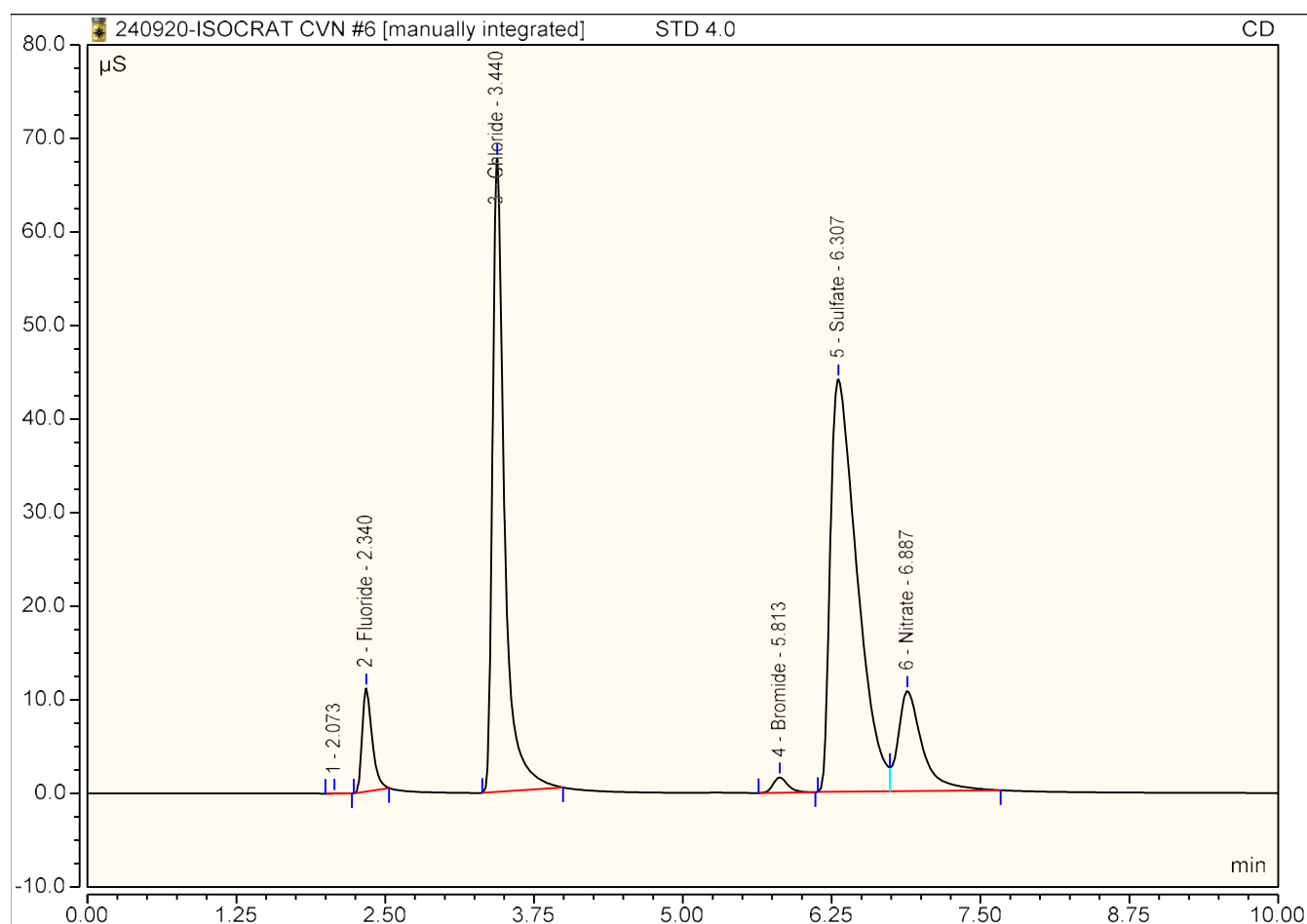
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.33	Fluoride	BMB	0.228	2.511	0.4607
3	3.44	Chloride	BMB*	1.937	17.049	4.9336
4	5.84	Bromide	BMB	0.050	0.317	0.4440
5	6.45	Sulfate	BM *	2.793	14.483	9.9320
6	6.94	Nitrate	MB*	0.570	2.634	0.4717
TOTAL:				5.58	36.99	16.24



Peak Integration Report

Sample Name:	STD 4.0	Inj. Vol.:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	05-Sep-2024 / 17:09	Run Time:	10.00

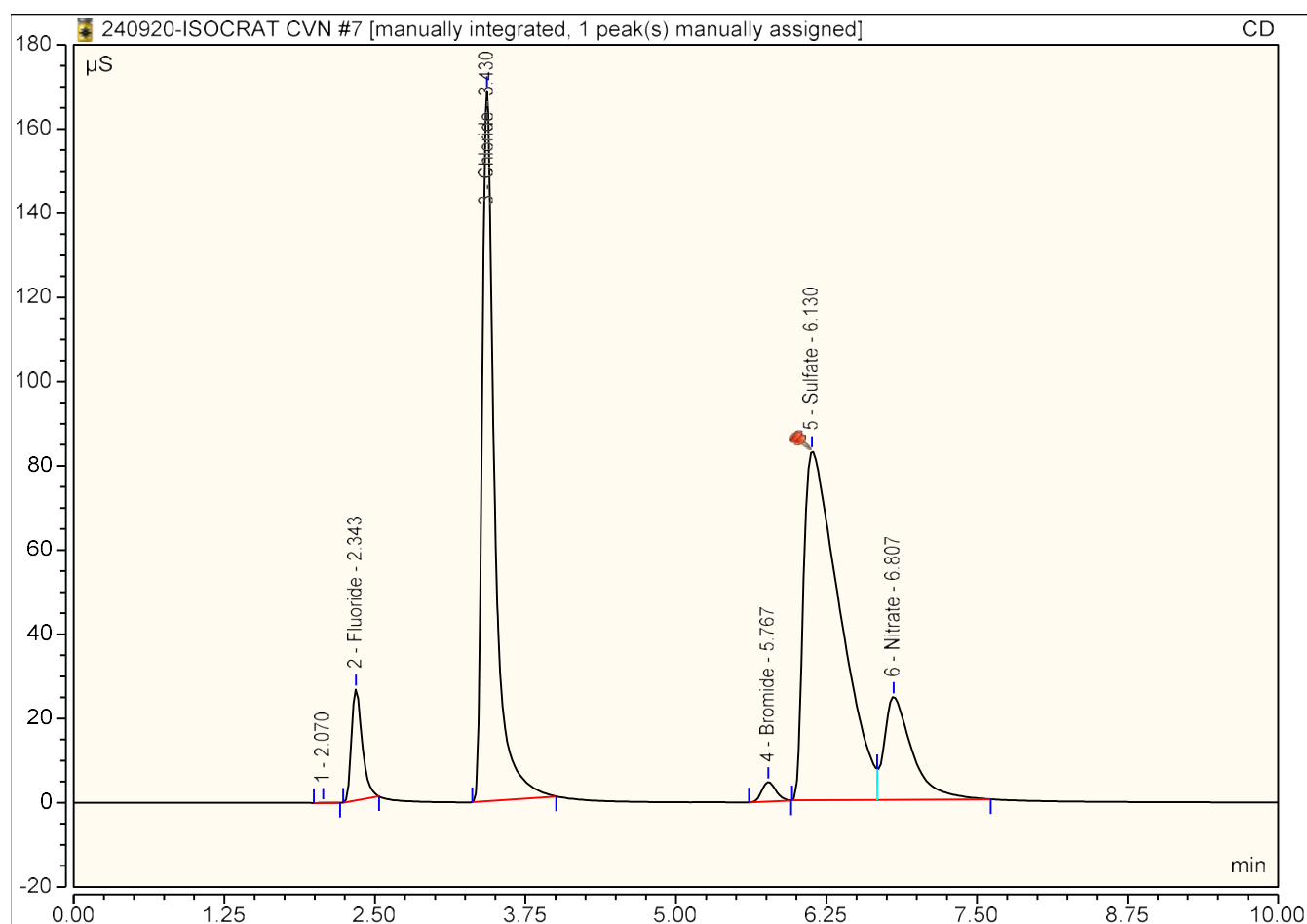
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.34	Fluoride	BMB	1.066	11.023	1.9885
3	3.44	Chloride	BMB*	7.993	67.701	19.7203
4	5.81	Bromide	BMB	0.239	1.650	2.0141
5	6.31	Sulfate	BM *	11.456	44.080	39.8861
6	6.89	Nitrate	MB*	2.529	10.726	2.0078
TOTAL:				23.28	135.18	65.62



Peak Integration Report

Sample Name:	STD 5.0	Inj. Vol.:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	05-Sep-2024 / 17:21	Run Time:	10.00

No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.34	Fluoride	BMB	2.722	26.414	5.0087
3	3.43	Chloride	BMB*	20.443	168.608	50.1170
4	5.77	Bromide	BMB	0.629	4.639	5.2575
5	6.13	Sulfate	BM ^A	28.857	82.915	100.0530
6	6.81	Nitrate	MB*	6.605	24.427	5.2021
TOTAL:				59.26	307.00	165.64

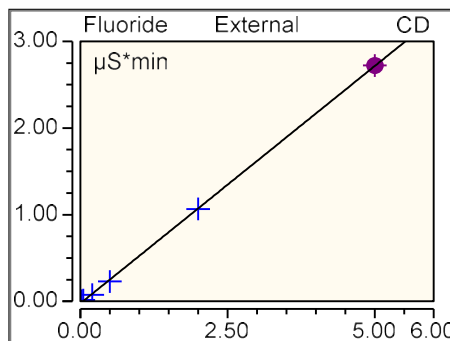


Calibration Batch Report

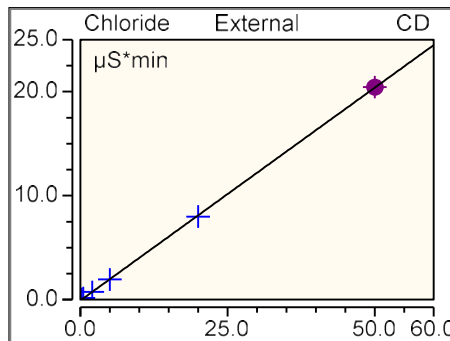
Sequence:	240920-ISOCRAT CVN	Injection Volume:	25.00
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	05-Sep-2024 / 17:21	Run Time:	10

Calibration Summary							
Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
Fluoride	Area	in, WithOffset	6.000	-0.024	0.548	0.000	99.9805
Chloride	Area	in, WithOffset	6.000	-0.084	0.410	0.000	99.9935
Bromide	Area	in, WithOffset	5.000	-0.004	0.120	0.000	99.8241
Sulfate	Area	in, WithOffset	6.000	-0.080	0.289	0.000	99.9995
Nitrate	Area	in, WithOffset	5.000	-0.032	1.276	0.000	99.9412
AVERAGE:				-0.0449	0.5287	0.0000	99.9478

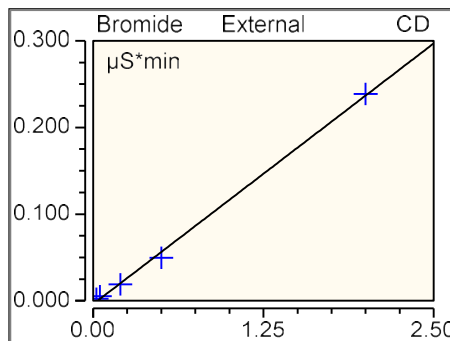
Injection Name	Ret.Time min	Area $\mu\text{S} \cdot \text{min}$	Height μS	Amount
	CD	CD	CD	CD
STD 0.5	Fluoride 2.330	Fluoride 0.0081	Fluoride 0.081	Fluoride 0.059
STD 1.0	2.330	0.0161	0.169	0.074
STD 2.0	2.333	0.0765	0.836	0.184
STD 3.0	2.333	0.2282	2.511	0.461
STD 4.0	2.340	1.0658	11.023	1.989
STD 5.0	2.343	2.7217	26.414	5.009
Average	2.335			
Rel. Std. Dev.	0.235 %			



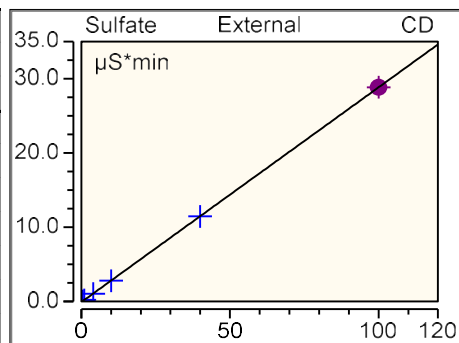
Injection Name	Ret.Time min	Area $\mu\text{S} \cdot \text{min}$	Height μS	Amount
	CD	CD	CD	CD
STD 0.5	Chloride 3.447	Chloride 0.0744	Chloride 0.618	Chloride 0.387
STD 1.0	3.447	0.1594	1.370	0.595
STD 2.0	3.447	0.7338	6.483	1.997
STD 3.0	3.443	1.9365	17.049	4.934
STD 4.0	3.440	7.9930	67.701	19.720
STD 5.0	3.430	20.4430	168.608	50.117
Average	3.442			
Rel. Std. Dev.	0.190 %			



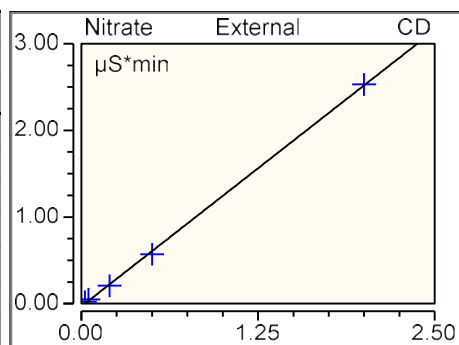
Injection Name	Ret.Time min	Area $\mu\text{S} \cdot \text{min}$	Height μS	Amount
	CD	CD	CD	CD
STD 0.5	Bromide 5.850	Bromide 0.0024	Bromide 0.013	Bromide 0.053
STD 1.0	5.843	0.0051	0.031	0.075
STD 2.0	5.843	0.0188	0.116	0.189
STD 3.0	5.837	0.0495	0.317	0.444
STD 4.0	5.813	0.2386	1.650	2.014
STD 5.0	5.767	0.6291	4.639	5.257
Average	5.826			
Rel. Std. Dev.	0.541 %			



Injection Name	Ret. Time min CD	Area $\mu\text{S} \cdot \text{min}$ CD	Height μS CD	Amount CD
STD 0.5	Sulfate 6.530	Sulfate 0.1004	Sulfate 0.545	Sulfate 0.624
STD 1.0	6.523	0.2234	1.257	1.049
STD 2.0	6.497	1.0642	5.973	3.956
STD 3.0	6.453	2.7926	14.483	9.932
STD 4.0	6.307	11.4558	44.080	39.886
STD 5.0	6.130	28.8572	82.915	100.053
Average	6.407			
Rel. Std. Dev.	2.474 %			



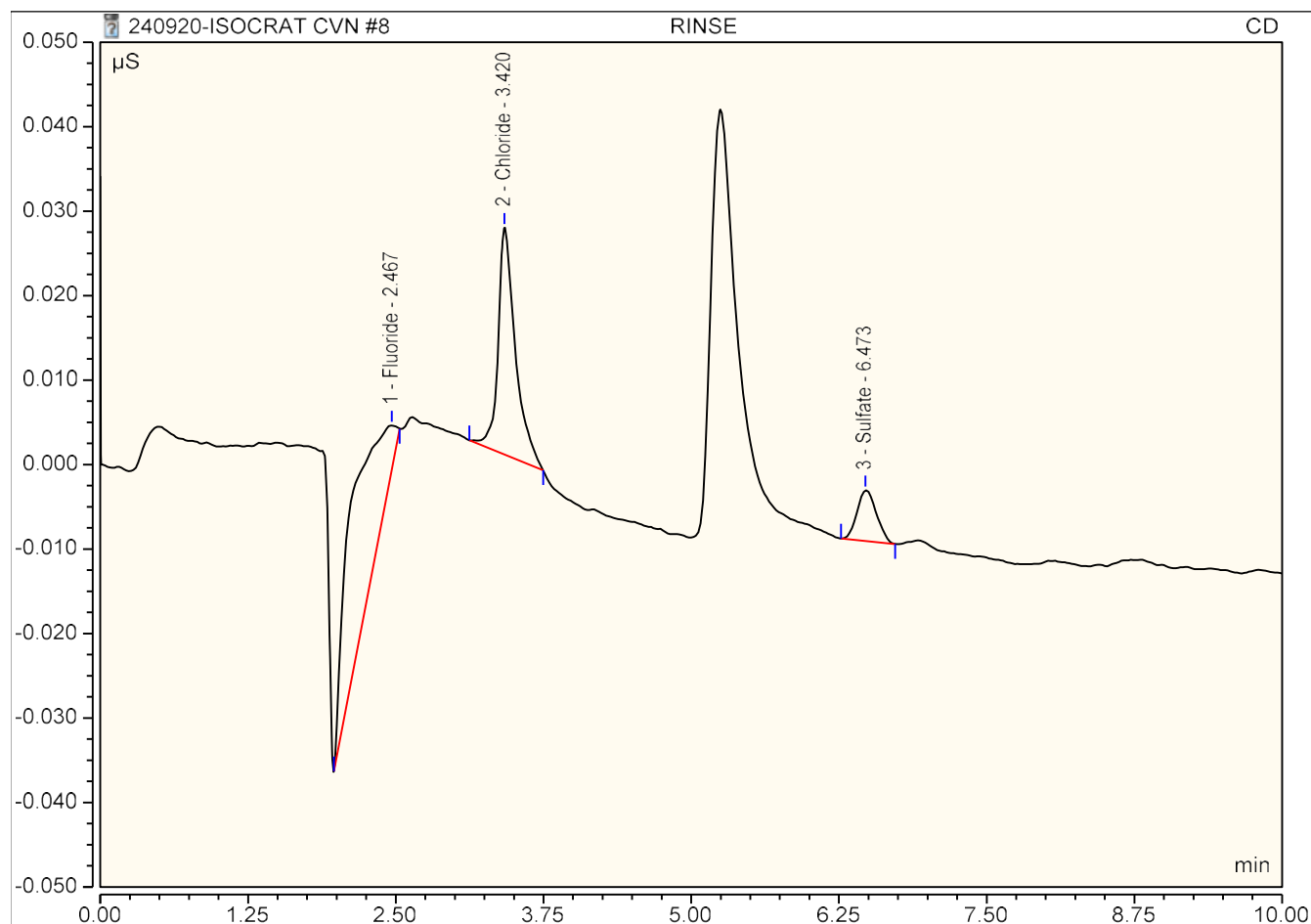
Injection Name	Ret. Time min CD	Area $\mu\text{S} \cdot \text{min}$ CD	Height μS CD	Amount CD
STD 0.5	Nitrate 6.967	Nitrate 0.0242	Nitrate 0.098	Nitrate 0.044
STD 1.0	6.960	0.0502	0.205	0.065
STD 2.0	6.953	0.2061	0.936	0.187
STD 3.0	6.940	0.5696	2.634	0.472
STD 4.0	6.887	2.5293	10.726	2.008
STD 5.0	6.807	6.6045	24.427	5.202
Average	6.919			
Rel. Std. Dev.	0.896 %			



Peak Integration Report

Sample Name:	RINSE	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 09:03	Run Time:	10.00

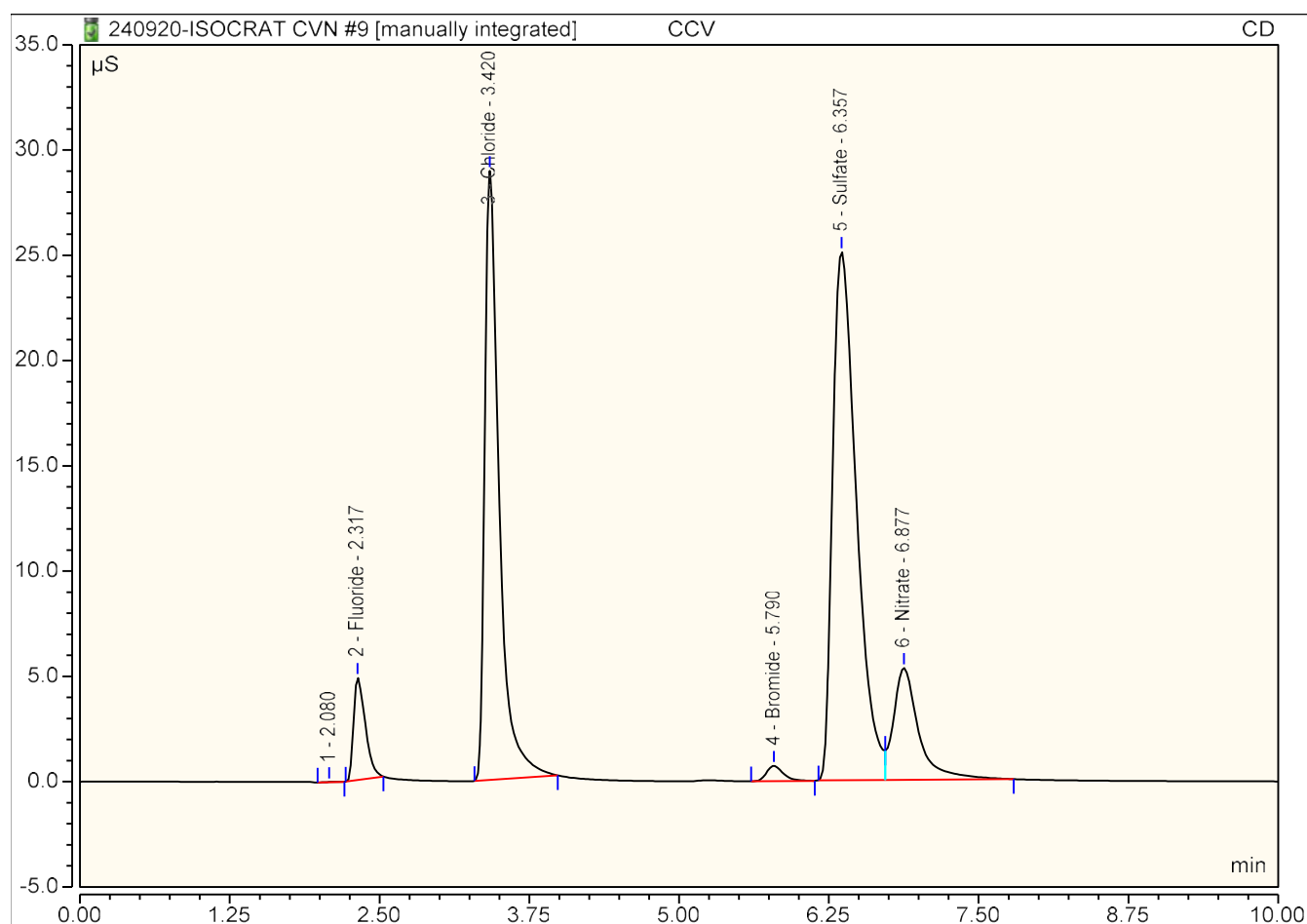
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
1	2.47	Fluoride	BMB	0.007	0.005	0.0574
2	3.42	Chloride	BMB	0.005	0.027	0.2167
3	6.47	Sulfate	BMB	0.001	0.006	0.2805
TOTAL:				0.01	0.04	0.55



Peak Integration Report

Sample Name:	CCV	Inj. Vol.:	25.00
Injection Type:	Check Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 09:15	Run Time:	10.00

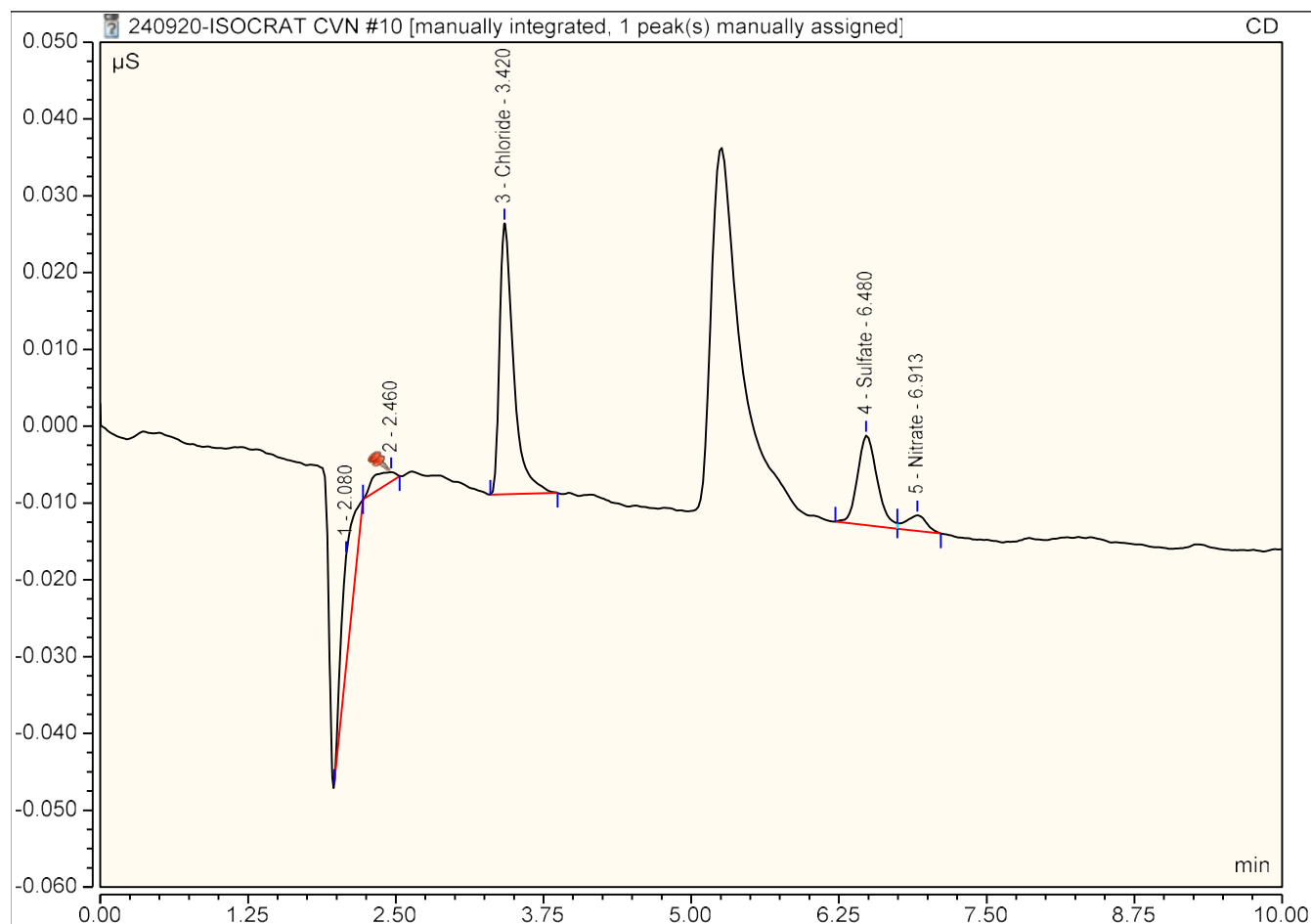
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.549	4.858	1.0451
3	3.42	Chloride	BMB*	4.050	28.934	10.0941
4	5.79	Bromide	BMB	0.119	0.732	1.0174
5	6.36	Sulfate	BM *	5.774	25.094	20.2391
6	6.88	Nitrate	MB*	1.297	5.315	1.0419
TOTAL:				11.79	64.93	33.44



Peak Integration Report

Sample Name:	CCB	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 09:27	Run Time:	10.00

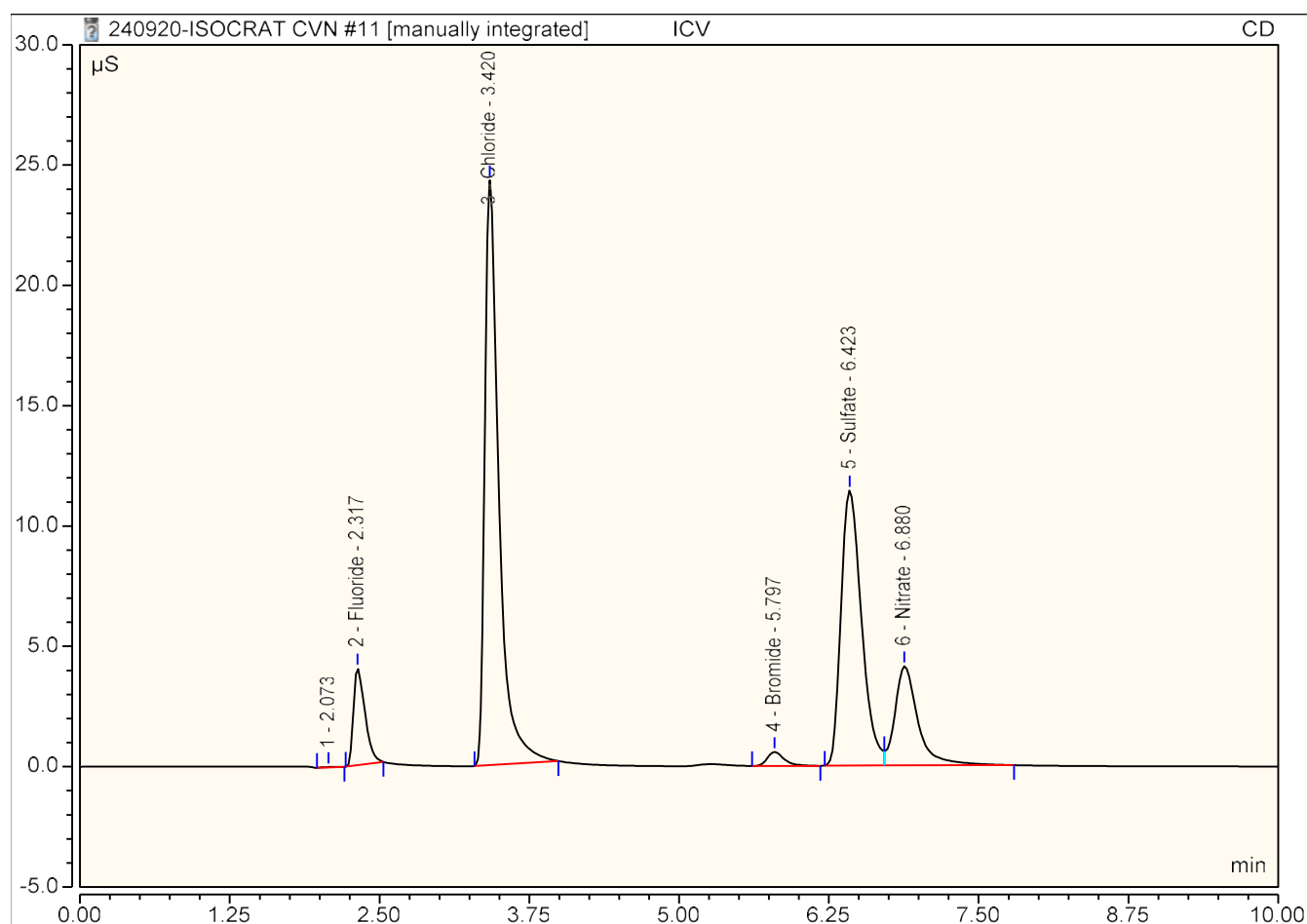
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
3	3.42	Chloride	BMB*	0.005	0.035	0.2174
4	6.48	Sulfate	BM *	0.002	0.012	0.2843
5	6.91	Nitrate	MB*	0.000	0.002	0.0256
TOTAL:				0.01	0.05	0.53



Peak Integration Report

Sample Name:	ICV	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 09:39	Run Time:	10.00

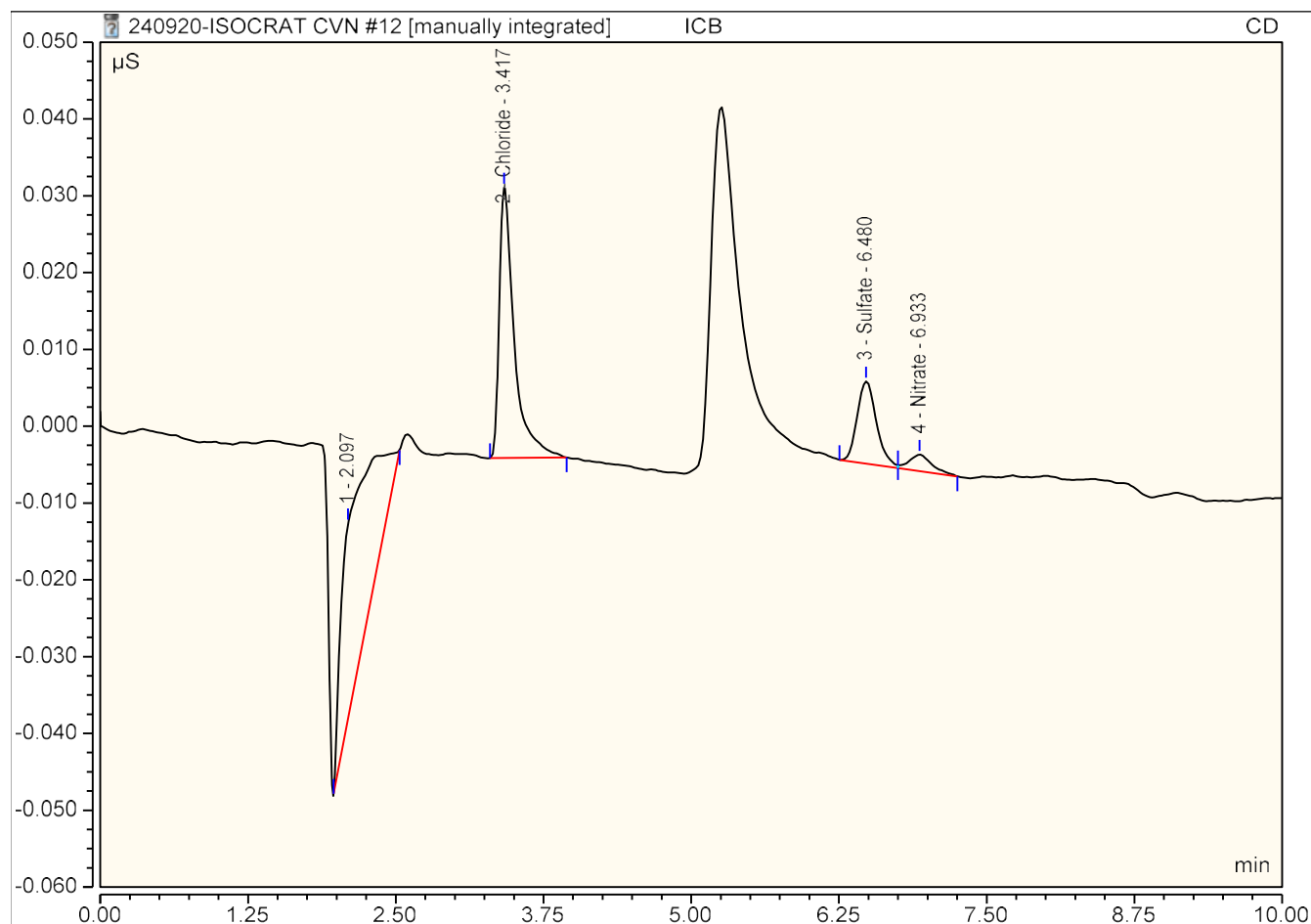
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.447	4.023	0.8593
3	3.42	Chloride	BMB*	3.330	24.309	8.3357
4	5.80	Bromide	BMB	0.095	0.584	0.8235
5	6.42	Sulfate	BM *	2.267	11.432	8.1139
6	6.88	Nitrate	MB*	0.922	4.122	0.7476
TOTAL:				7.06	44.47	18.88



Peak Integration Report

Sample Name:	ICB	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 09:51	Run Time:	10.00

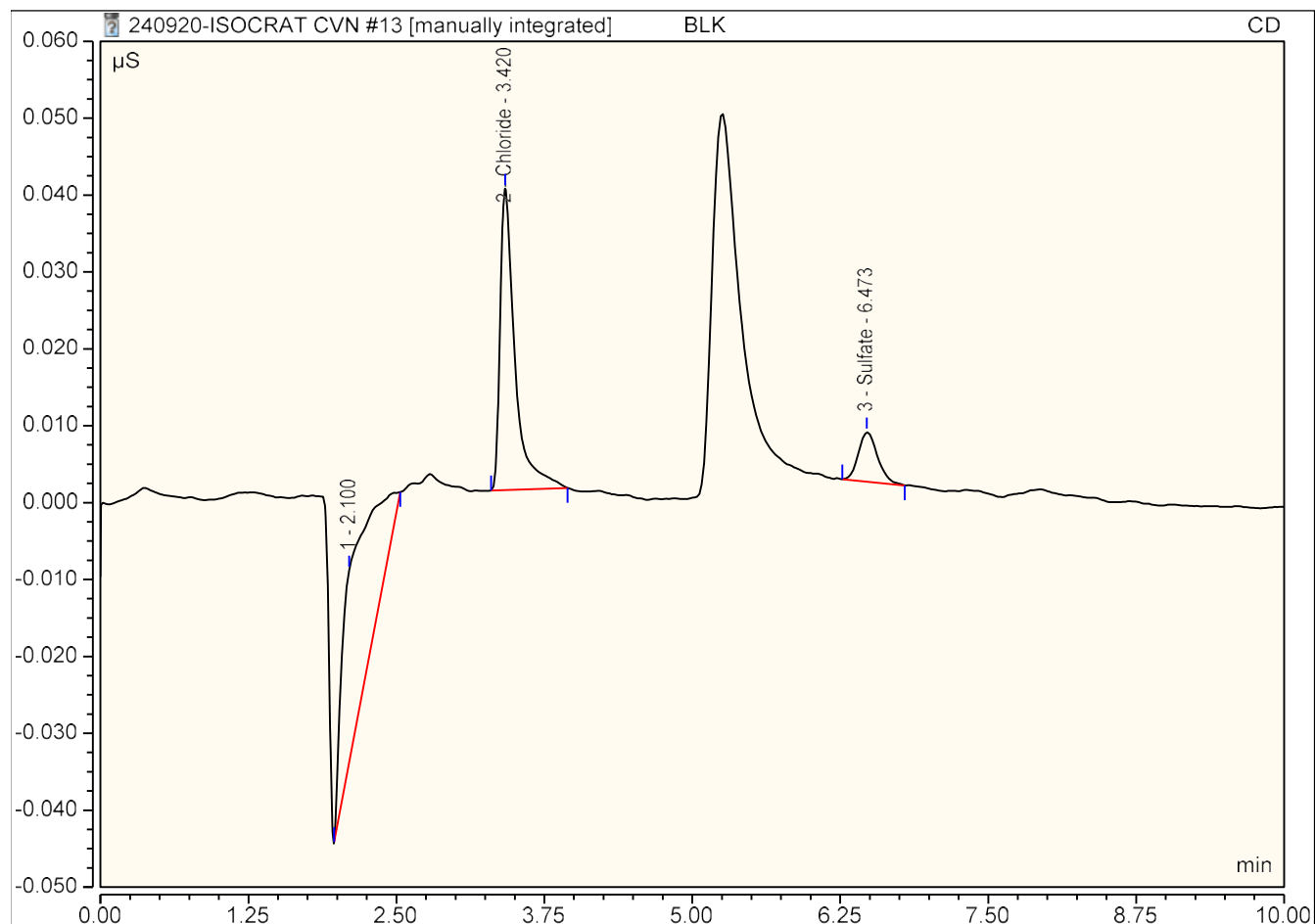
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	3.42	Chloride	BMB*	0.005	0.035	0.2182
3	6.48	Sulfate	BM *	0.002	0.011	0.2836
4	6.93	Nitrate	MB*	0.000	0.002	0.0256
TOTAL:				0.01	0.05	0.53



Peak Integration Report

Sample Name:	BLK	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 10:03	Run Time:	10.00

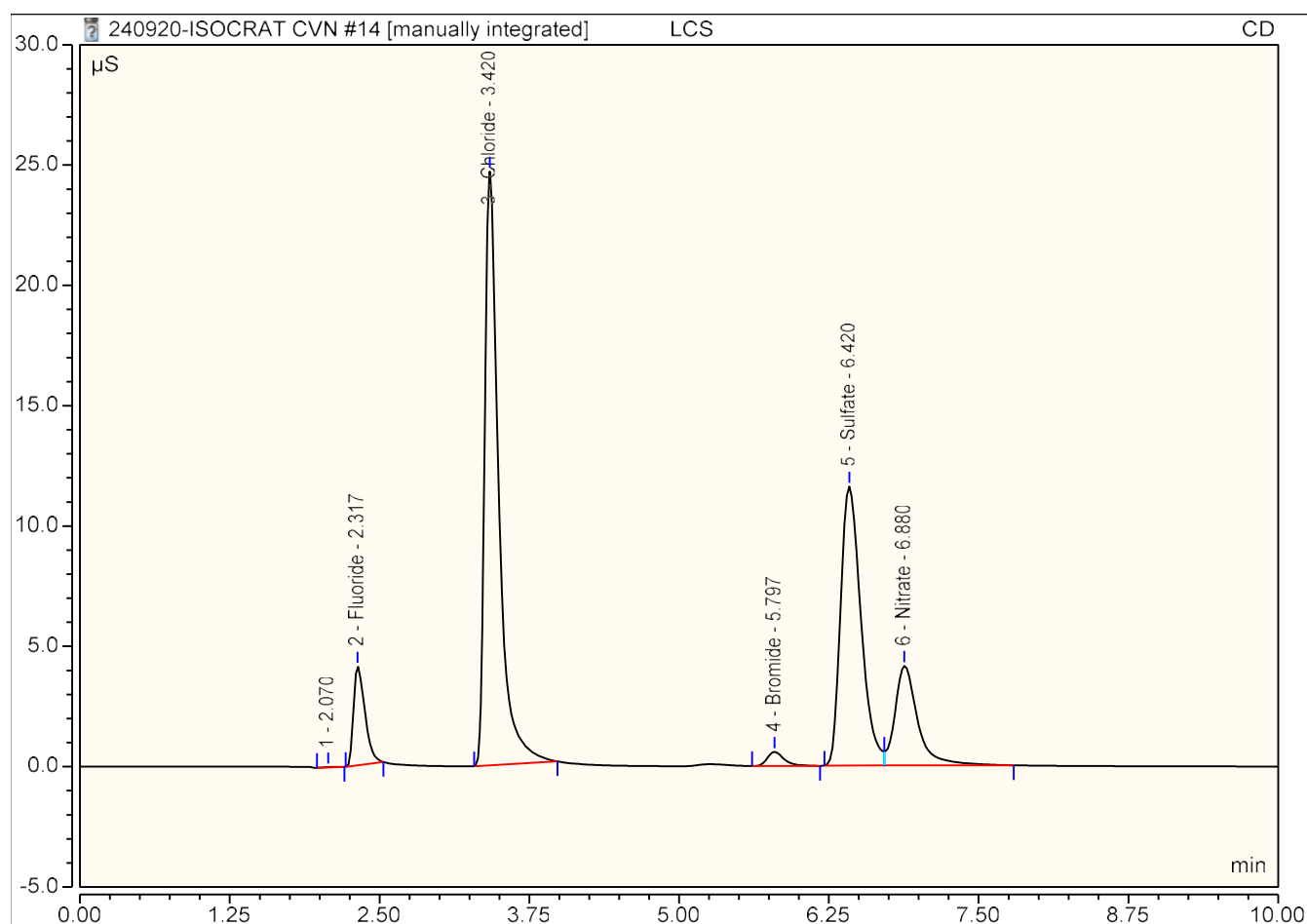
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	3.42	Chloride	BMB*	0.006	0.039	0.2195
3	6.47	Sulfate	BMB	0.001	0.006	0.2807
TOTAL:				0.01	0.05	0.50



Peak Integration Report

Sample Name:	LCS	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 10:16	Run Time:	10.00

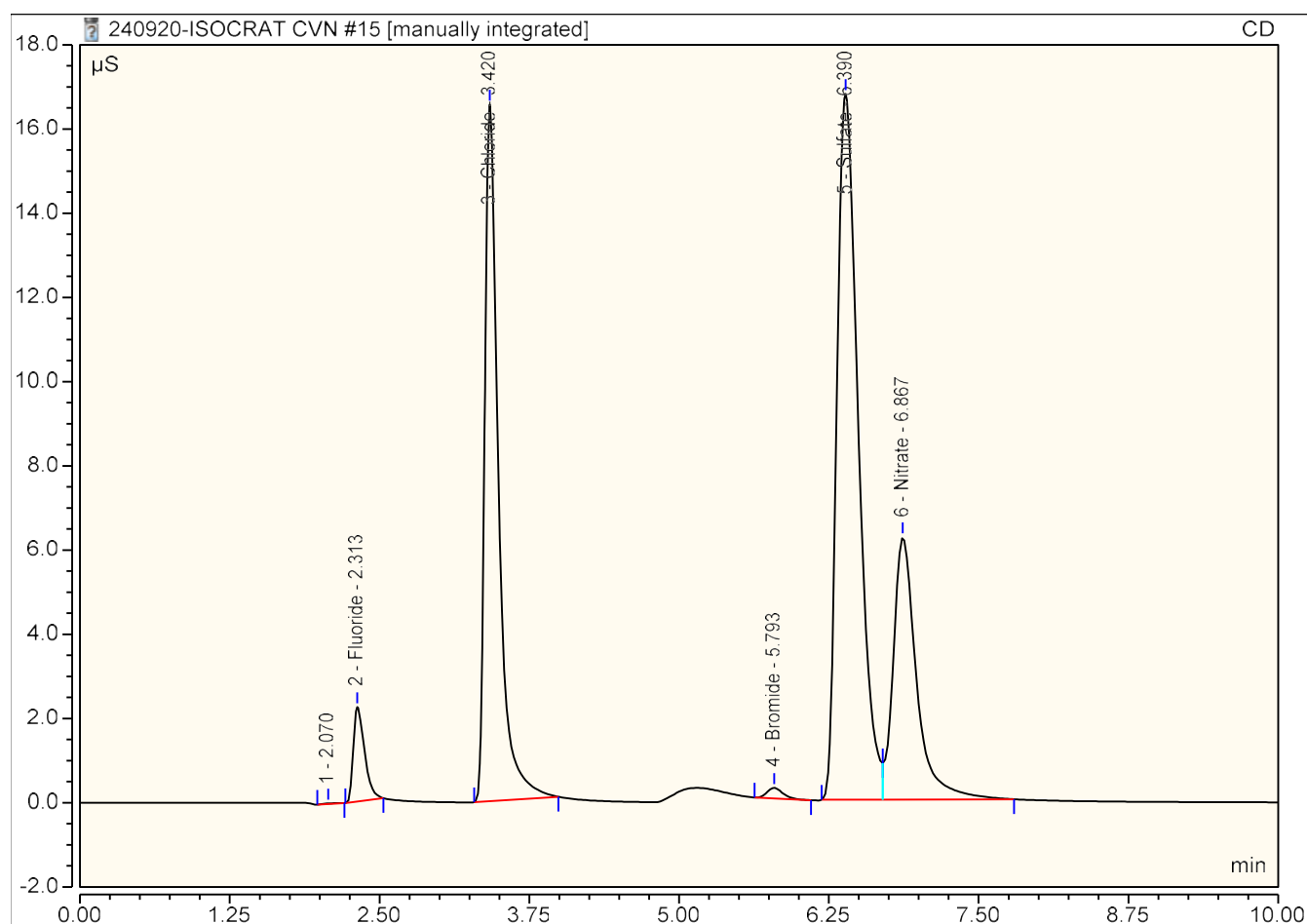
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.451	4.102	0.8666
3	3.42	Chloride	BMB*	3.347	24.679	8.3768
4	5.80	Bromide	BMB	0.095	0.590	0.8232
5	6.42	Sulfate	BM *	2.282	11.593	8.1675
6	6.88	Nitrate	MB*	0.913	4.145	0.7406
TOTAL:				7.09	45.11	18.97



Peak Integration Report

Sample Name:	L2453053-01 BR MS	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 10:28	Run Time:	10.00

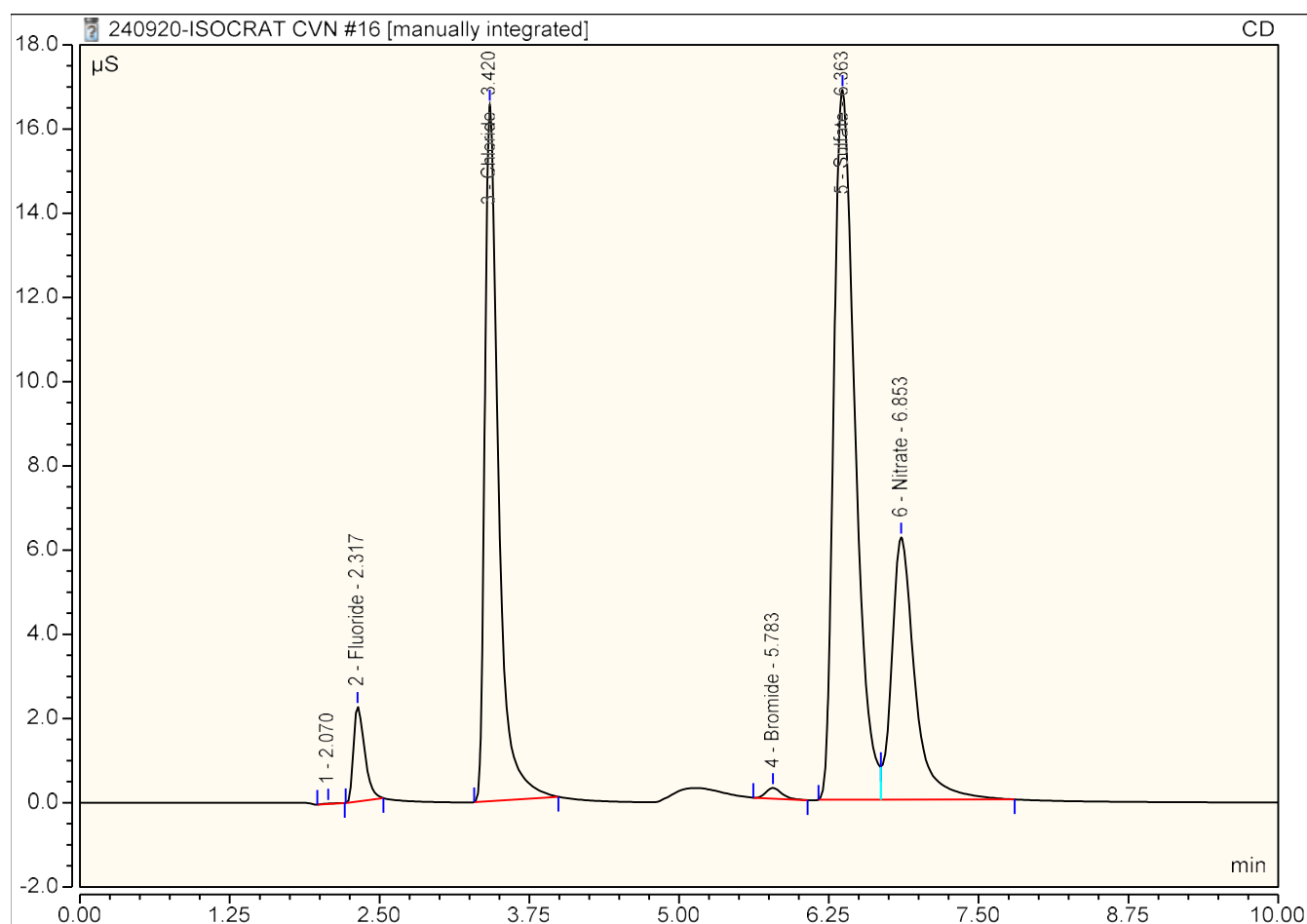
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.243	2.242	0.4868
3	3.42	Chloride	BMB*	2.192	16.548	5.5569
4	5.79	Bromide	BMB	0.039	0.253	0.3547
5	6.39	Sulfate	BM *	3.458	16.759	12.2323
6	6.87	Nitrate	MB*	1.407	6.231	1.1284
TOTAL:				7.34	42.03	19.76



Peak Integration Report

Sample Name:	L2453053-01 MSD	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 10:40	Run Time:	10.00

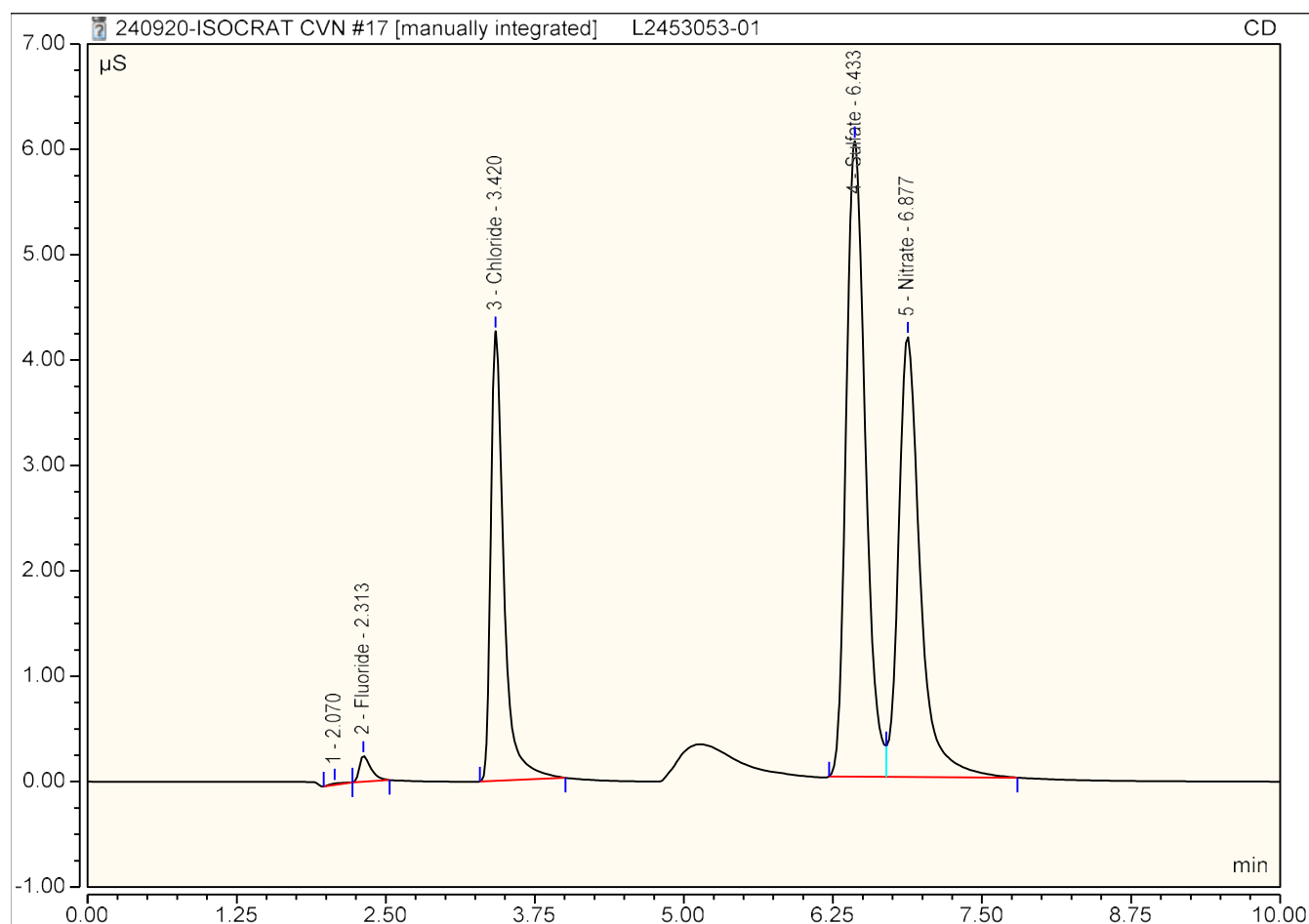
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.243	2.251	0.4873
3	3.42	Chloride	BMB*	2.194	16.550	5.5630
4	5.78	Bromide	BMB	0.039	0.254	0.3553
5	6.36	Sulfate	BM *	3.464	16.861	12.2534
6	6.85	Nitrate	MB*	1.400	6.228	1.1228
TOTAL:				7.34	42.14	19.78



Peak Integration Report

Sample Name:	L2453053-01	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 10:52	Run Time:	10.00

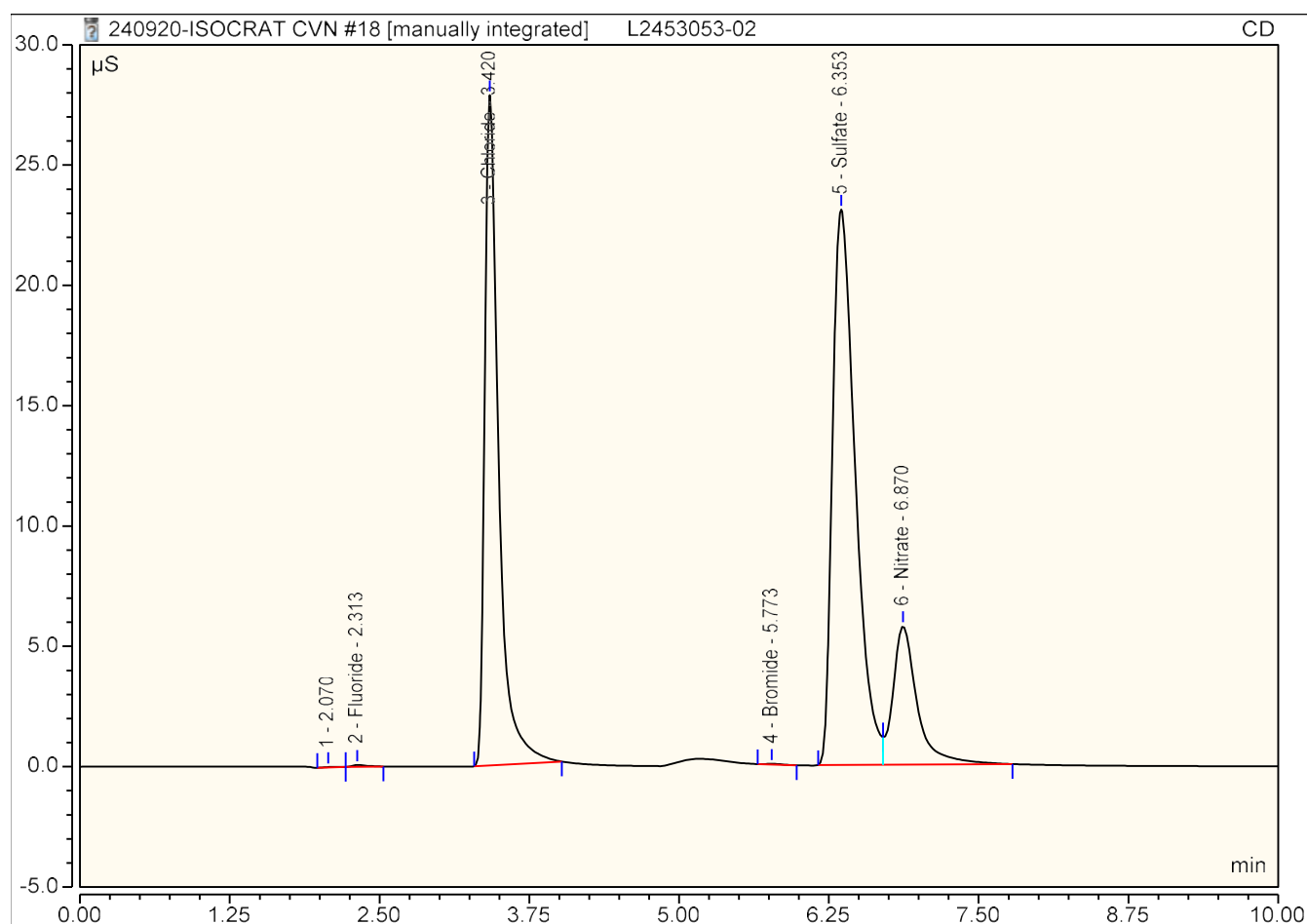
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.027	0.244	0.0944
3	3.42	Chloride	BMB*	0.545	4.267	1.5364
4	6.43	Sulfate	BM *	1.122	6.030	4.1565
5	6.88	Nitrate	MB*	0.880	4.179	0.7151
TOTAL:				2.57	14.72	6.50



Peak Integration Report

Sample Name:	L2453053-02	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 11:04	Run Time:	10.00

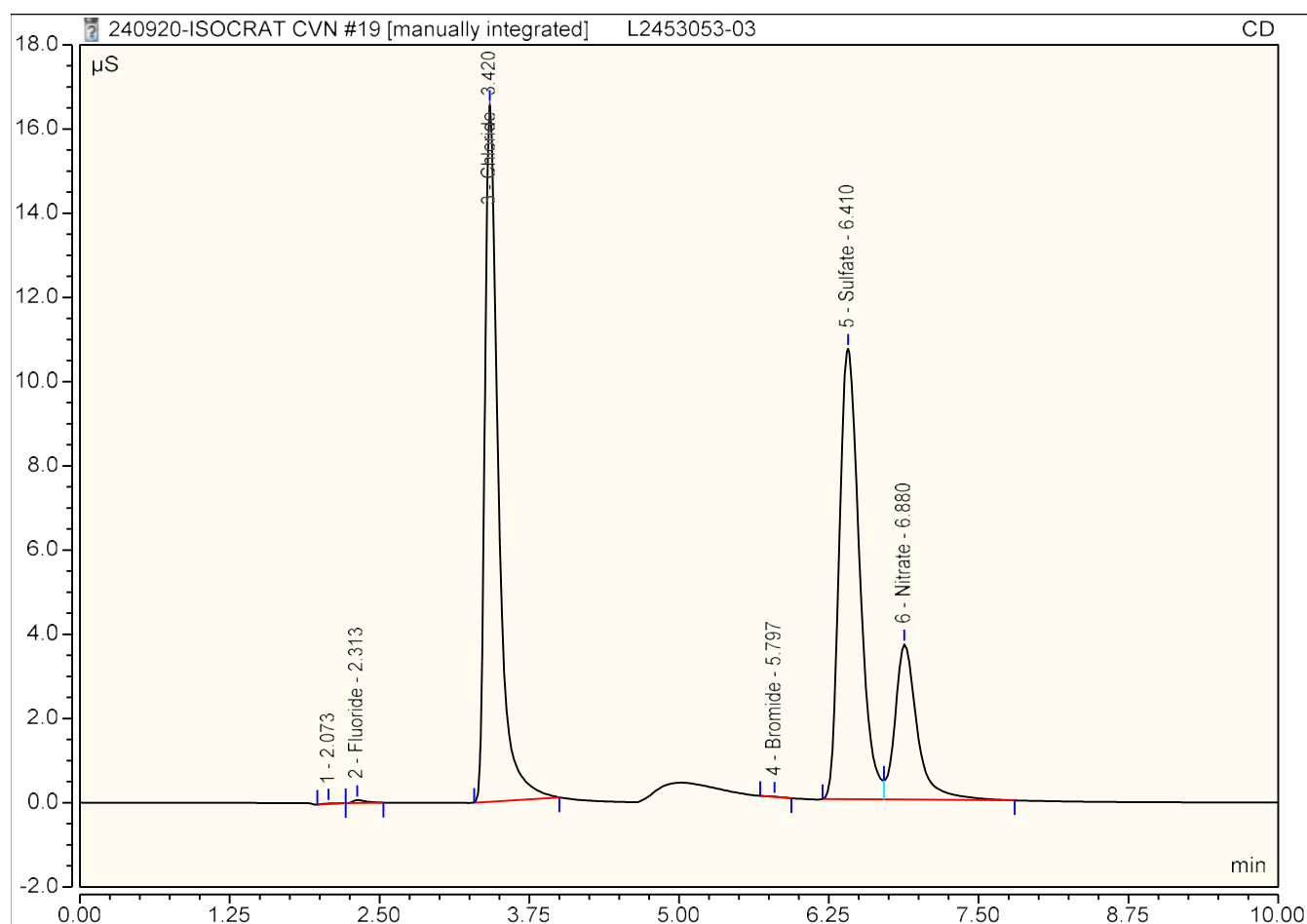
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.009	0.075	0.0618
3	3.42	Chloride	BMB*	3.759	27.867	9.3844
4	5.77	Bromide	BMB	0.004	0.029	0.0668
5	6.35	Sulfate	BM *	5.081	23.073	17.8456
6	6.87	Nitrate	MB*	1.347	5.759	1.0809
TOTAL:				10.20	56.80	28.44



Peak Integration Report

Sample Name:	L2453053-03	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 11:16	Run Time:	10.00

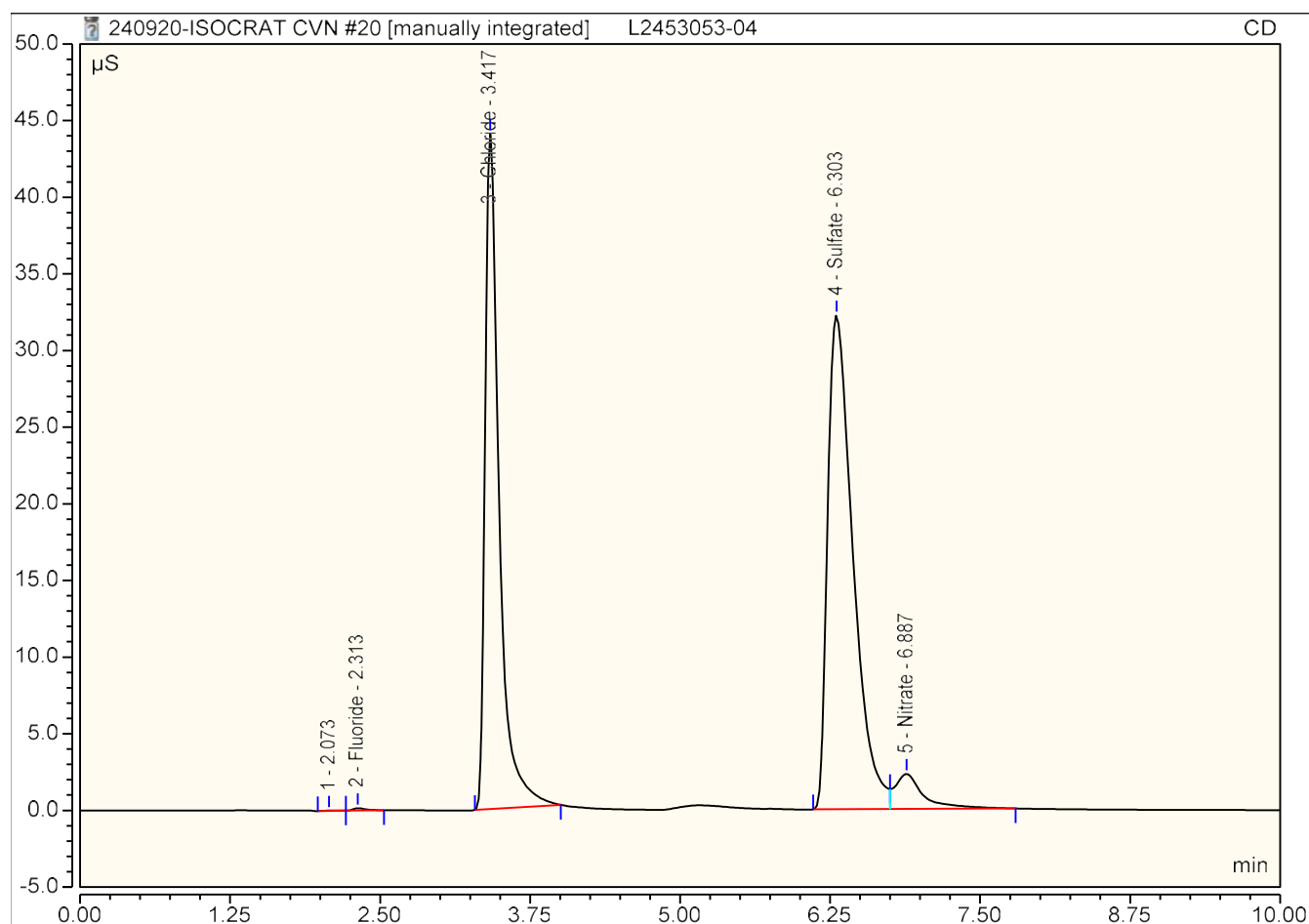
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.009	0.069	0.0601
3	3.42	Chloride	BMB*	2.175	16.552	5.5166
4	5.80	Bromide	BMB	0.001	0.011	0.0437
5	6.41	Sulfate	BM *	2.089	10.699	7.4978
6	6.88	Nitrate	MB*	0.795	3.691	0.6480
TOTAL:				5.07	31.02	13.77



Peak Integration Report

Sample Name:	L2453053-04	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 11:28	Run Time:	10.00

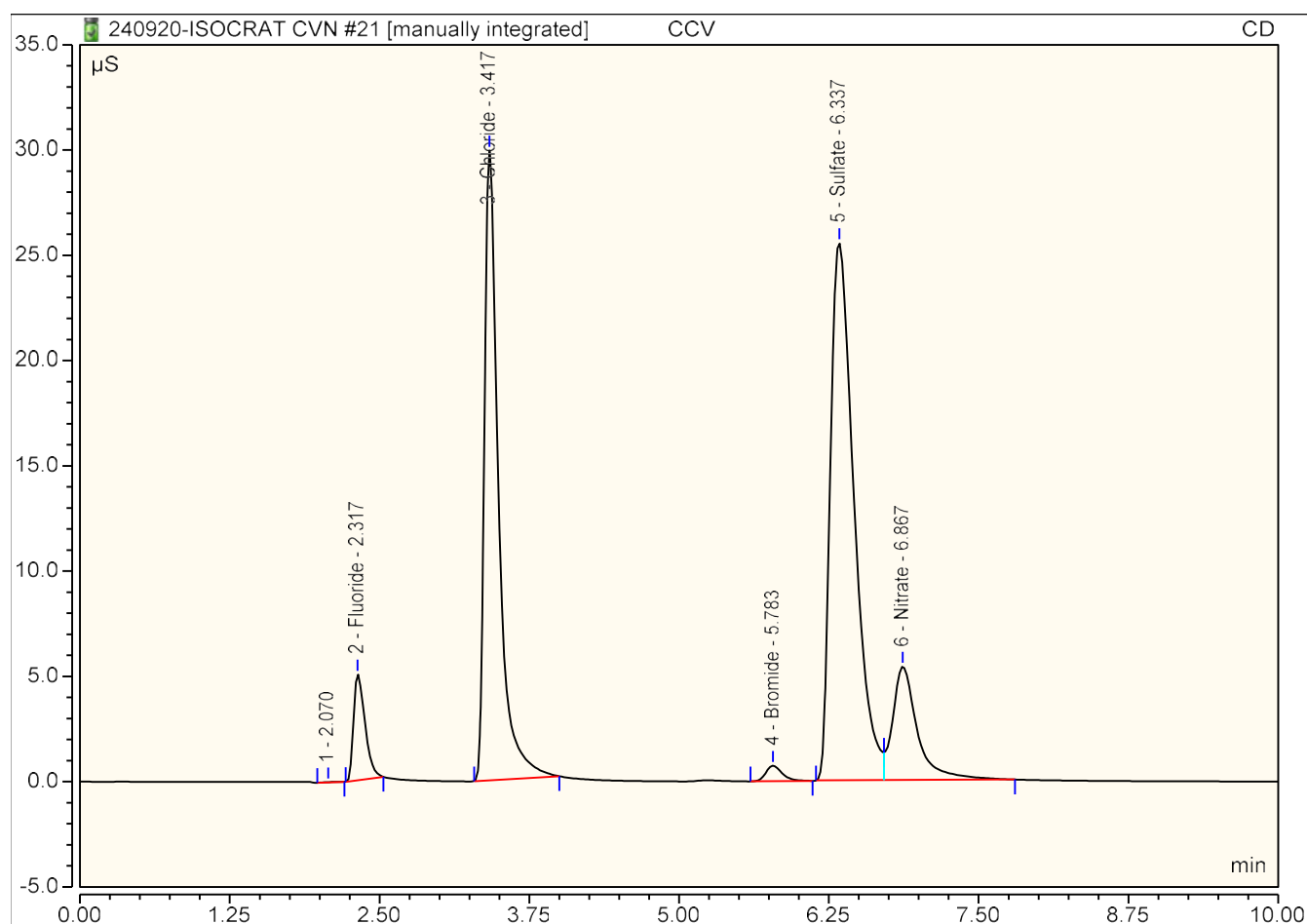
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.017	0.145	0.0752
3	3.42	Chloride	BMB*	5.985	44.056	14.8191
4	6.30	Sulfate	BM *	7.869	32.217	27.4834
5	6.89	Nitrate	MB*	0.629	2.293	0.5180
TOTAL:				14.50	78.71	42.90



Peak Integration Report

Sample Name:	CCV	Inj. Vol.:	25.00
Injection Type:	Check Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 11:40	Run Time:	10.00

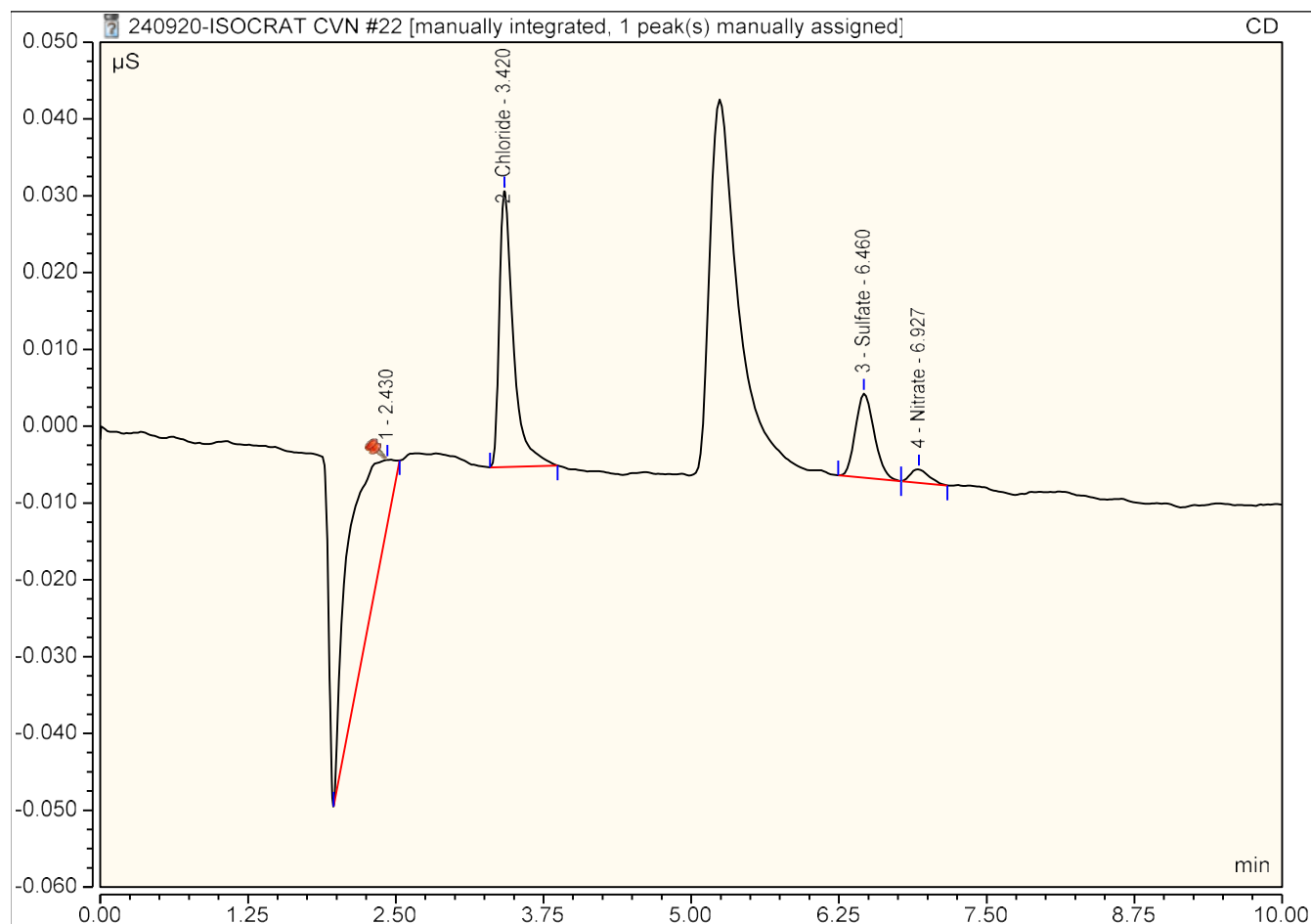
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.555	5.026	1.0575
3	3.42	Chloride	BMB*	4.081	29.914	10.1694
4	5.78	Bromide	BMB	0.117	0.738	1.0038
5	6.34	Sulfate	BM *	5.825	25.522	20.4161
6	6.87	Nitrate	MB*	1.294	5.393	1.0398
TOTAL:				11.87	66.59	33.69



Peak Integration Report

Sample Name:	CCB	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 11:52	Run Time:	10.00

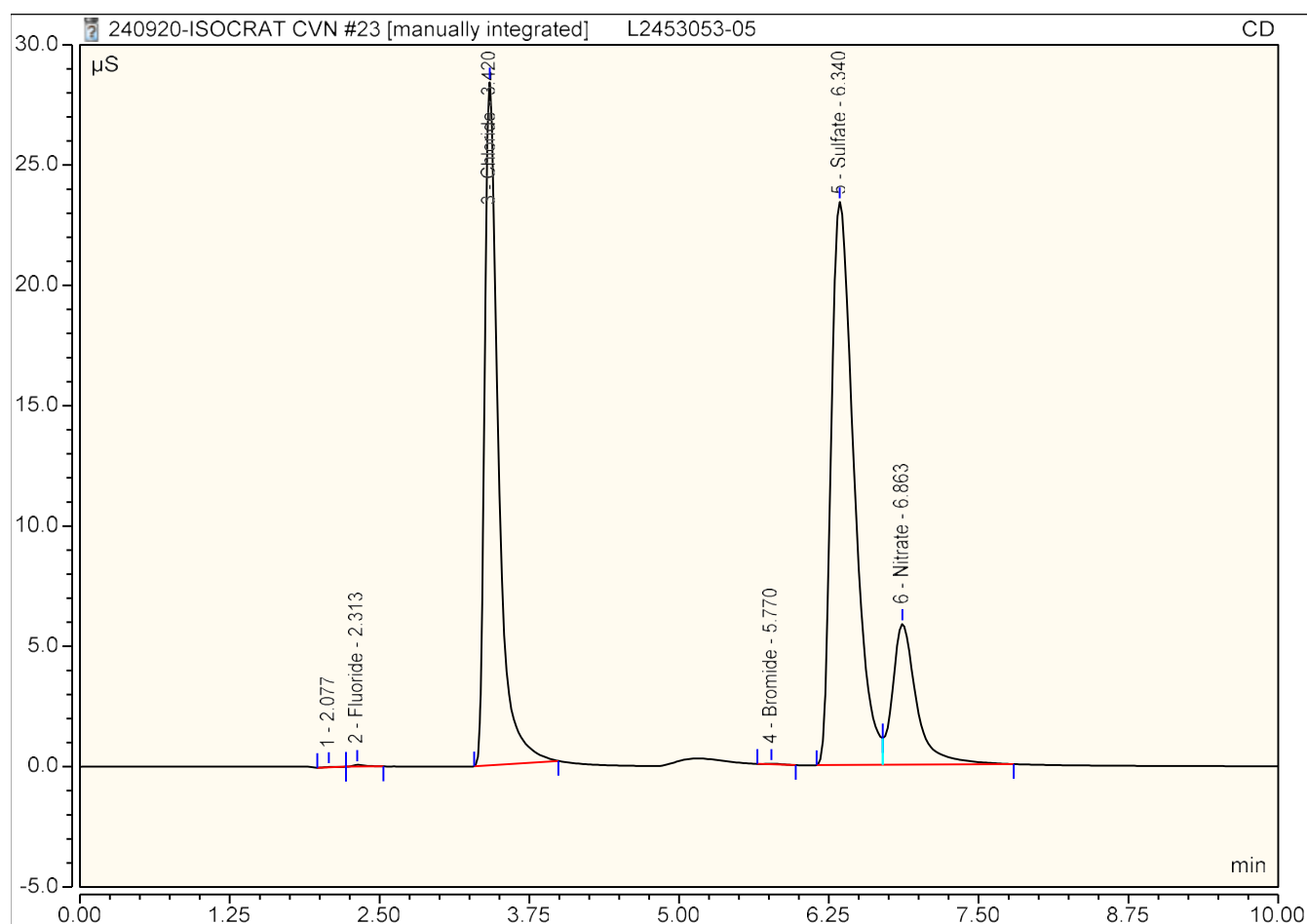
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	3.42	Chloride	BMB*	0.005	0.036	0.2177
3	6.46	Sulfate	BM *	0.002	0.011	0.2835
4	6.93	Nitrate	MB*	0.000	0.002	0.0255
TOTAL:				0.01	0.05	0.53



Peak Integration Report

Sample Name:	L2453053-05	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 12:04	Run Time:	10.00

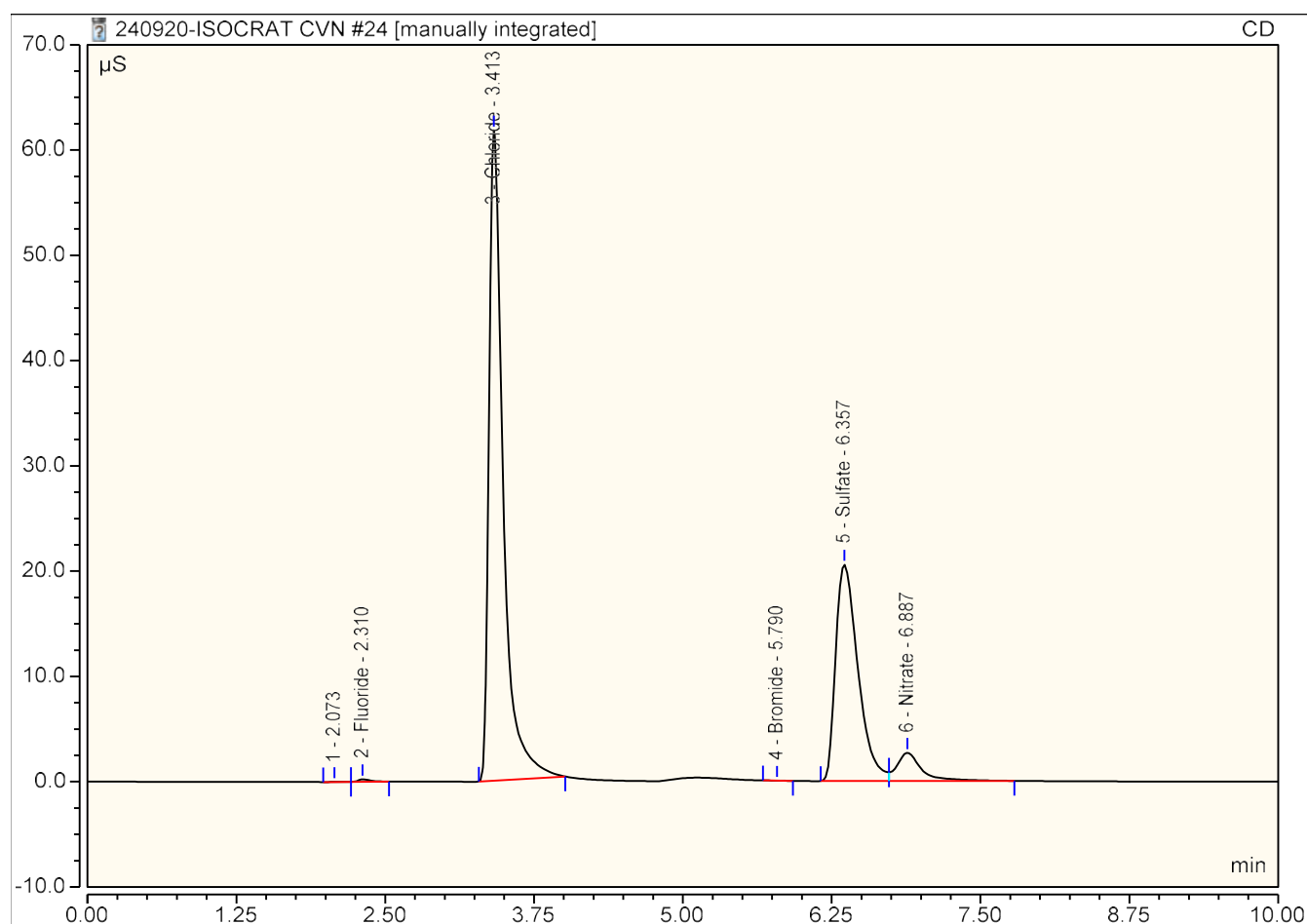
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.009	0.076	0.0617
3	3.42	Chloride	BMB*	3.811	28.378	9.5096
4	5.77	Bromide	BMB	0.004	0.029	0.0664
5	6.34	Sulfate	BM *	5.158	23.386	18.1098
6	6.86	Nitrate	MB*	1.364	5.849	1.0947
TOTAL:				10.35	57.72	28.84



Peak Integration Report

Sample Name:	L2453342-01 BR	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 12:16	Run Time:	10.00

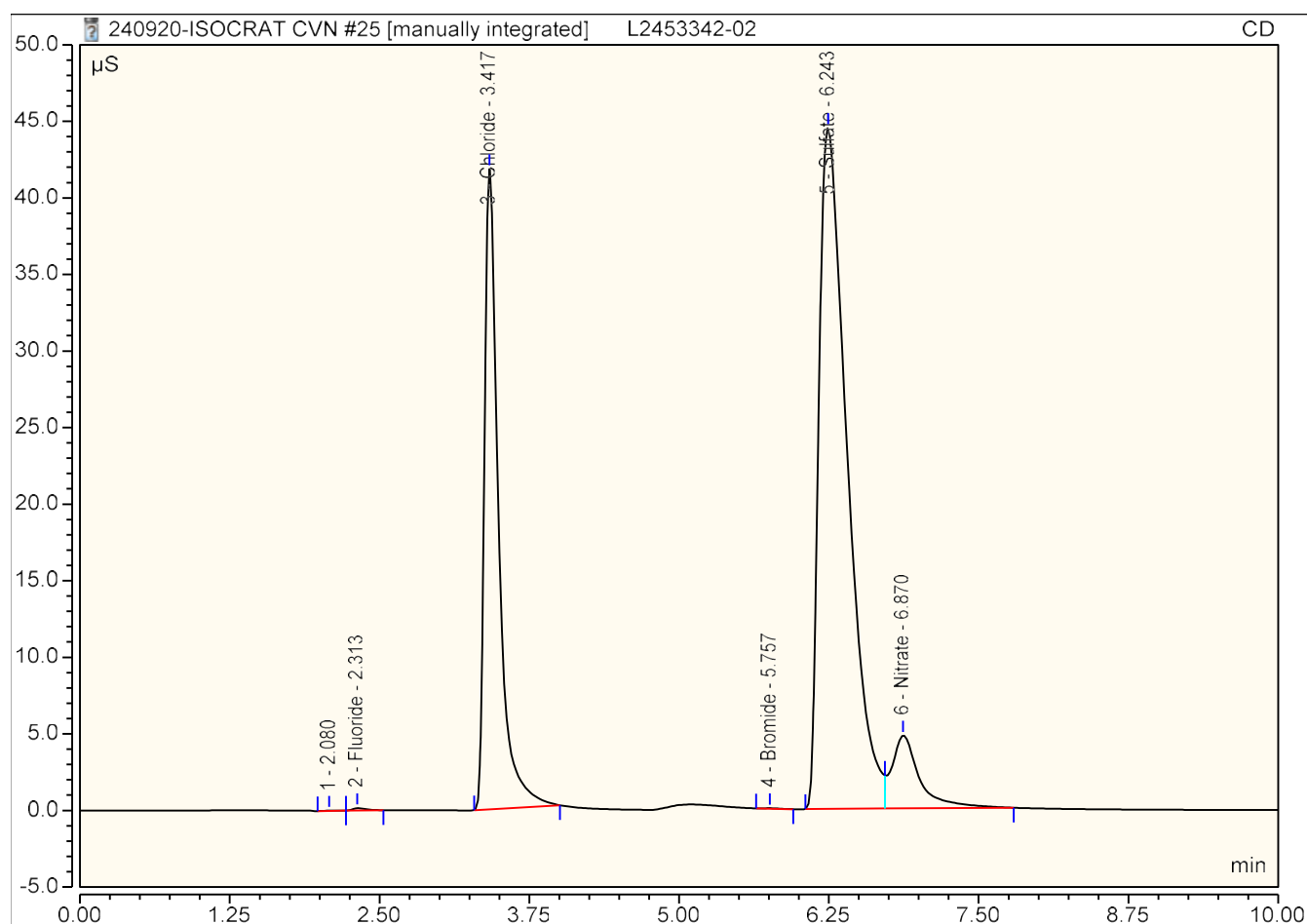
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.027	0.236	0.0933
3	3.41	Chloride	BMB*	8.553	61.759	21.0882
4	5.79	Bromide	BMB	0.001	0.011	0.0441
5	6.36	Sulfate	BM *	4.460	20.568	15.6990
6	6.89	Nitrate	MB*	0.644	2.684	0.5300
TOTAL:				13.69	85.26	37.45



Peak Integration Report

Sample Name:	L2453342-02	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 12:28	Run Time:	10.00

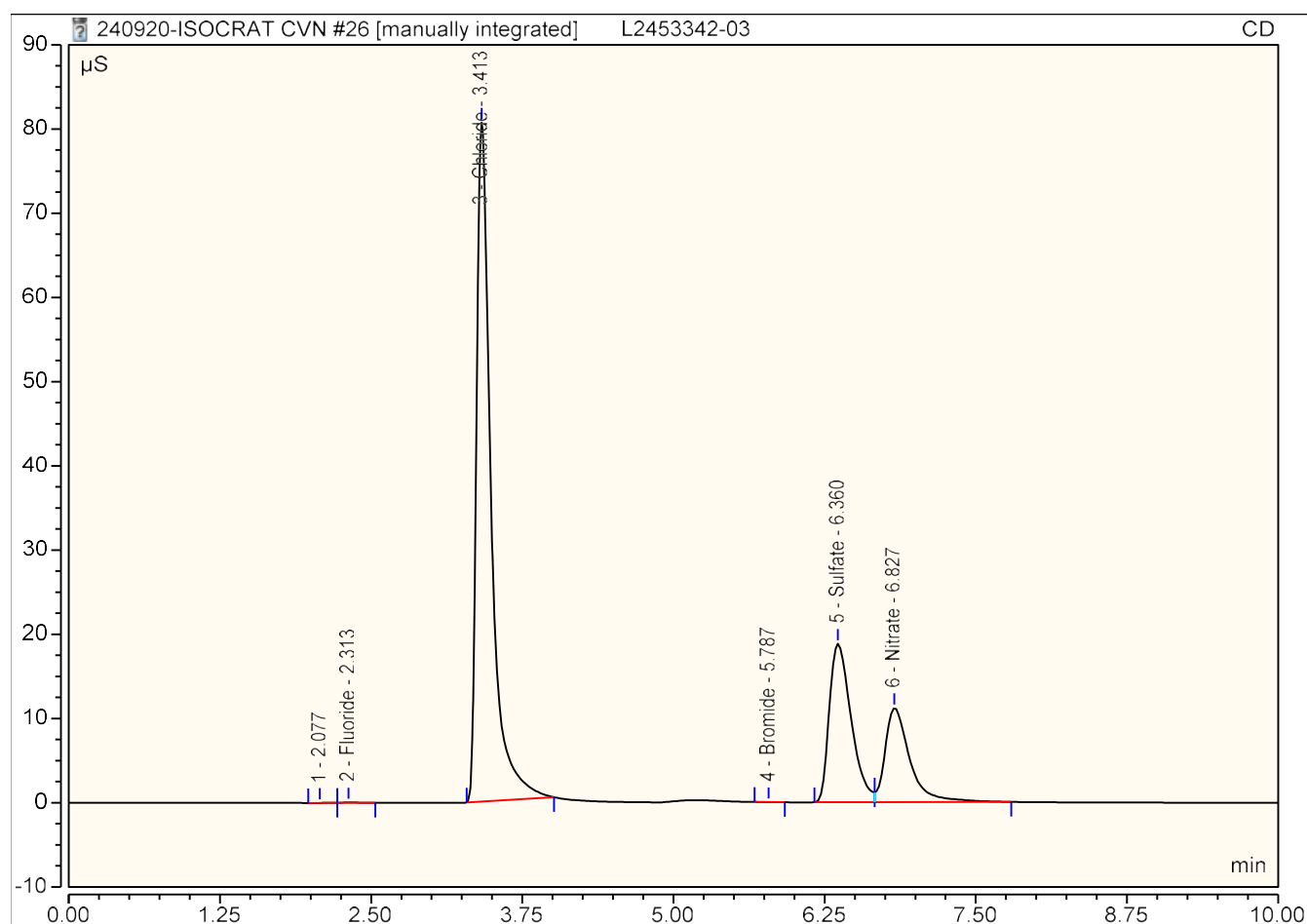
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.018	0.150	0.0774
3	3.42	Chloride	BMB*	5.701	41.819	14.1236
4	5.76	Bromide	BMB	0.004	0.027	0.0651
5	6.24	Sulfate	BM *	12.154	44.473	42.2995
6	6.87	Nitrate	MB*	1.284	4.758	1.0316
TOTAL:				19.16	91.23	57.60



Peak Integration Report

Sample Name:	L2453342-03	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 12:41	Run Time:	10.00

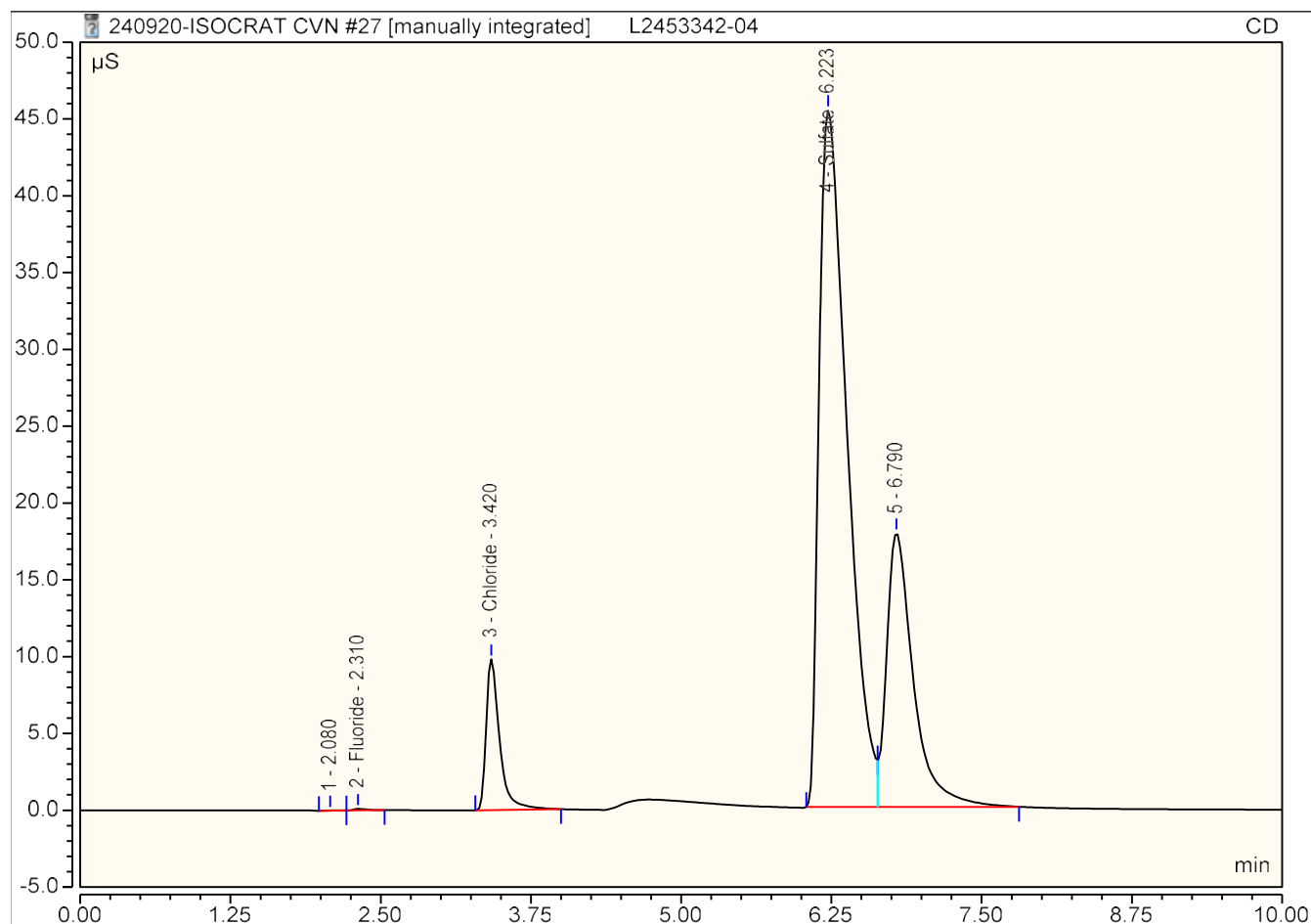
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.007	0.053	0.0567
3	3.41	Chloride	BMB*	11.227	80.607	27.6154
4	5.79	Bromide	BMB	0.001	0.009	0.0416
5	6.36	Sulfate	BM *	3.929	18.799	13.8598
6	6.83	Nitrate	MB*	2.623	11.163	2.0814
TOTAL:				17.79	110.63	43.65



Peak Integration Report

Sample Name:	L2453342-04	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 12:53	Run Time:	10.00

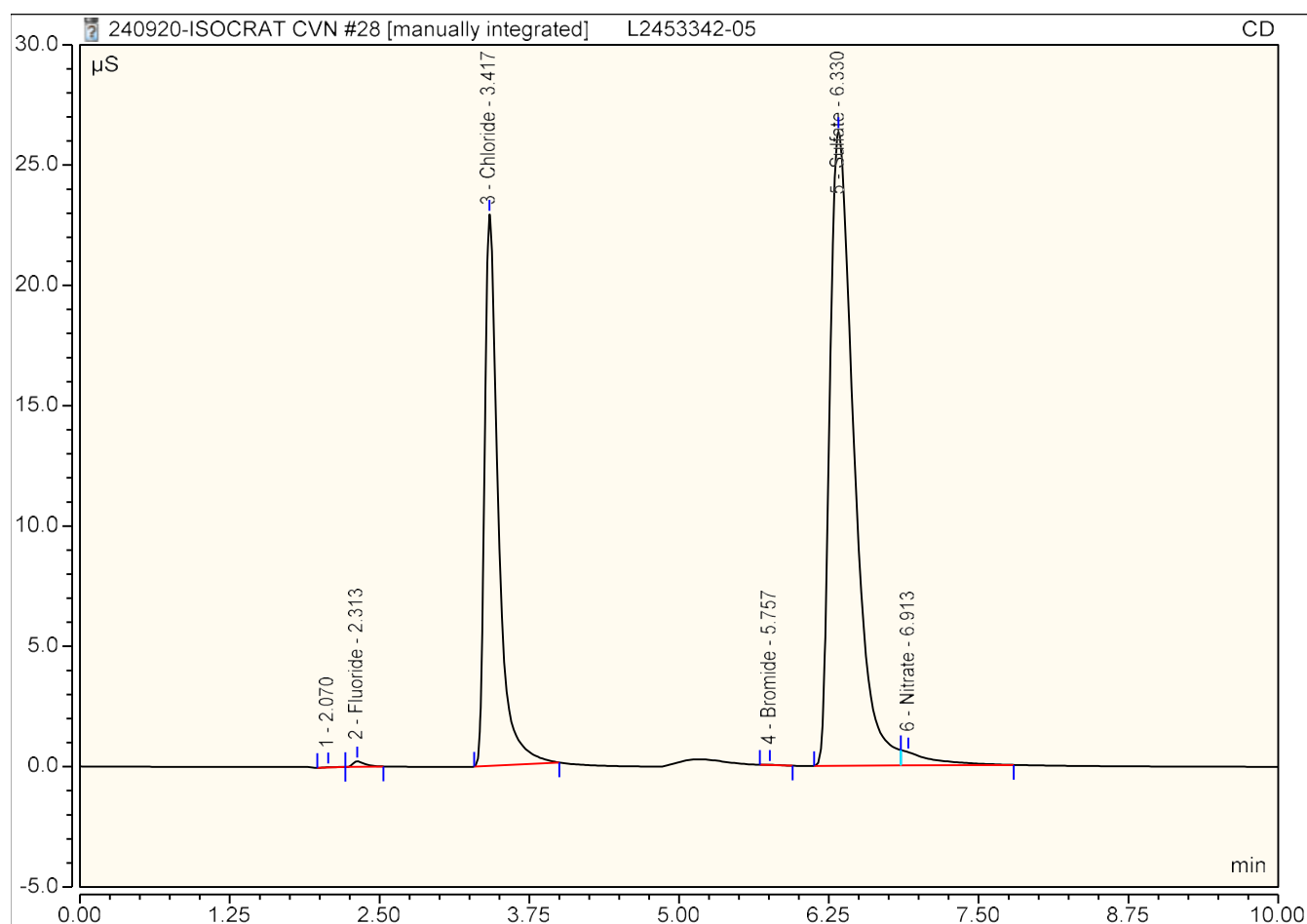
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.012	0.097	0.0659
3	3.42	Chloride	BMB*	1.269	9.822	3.3049
4	6.22	Sulfate	BM *	12.230	45.379	42.5626
TOTAL:				13.51	55.30	45.93



Peak Integration Report

Sample Name:	L2453342-05	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 13:05	Run Time:	10.00

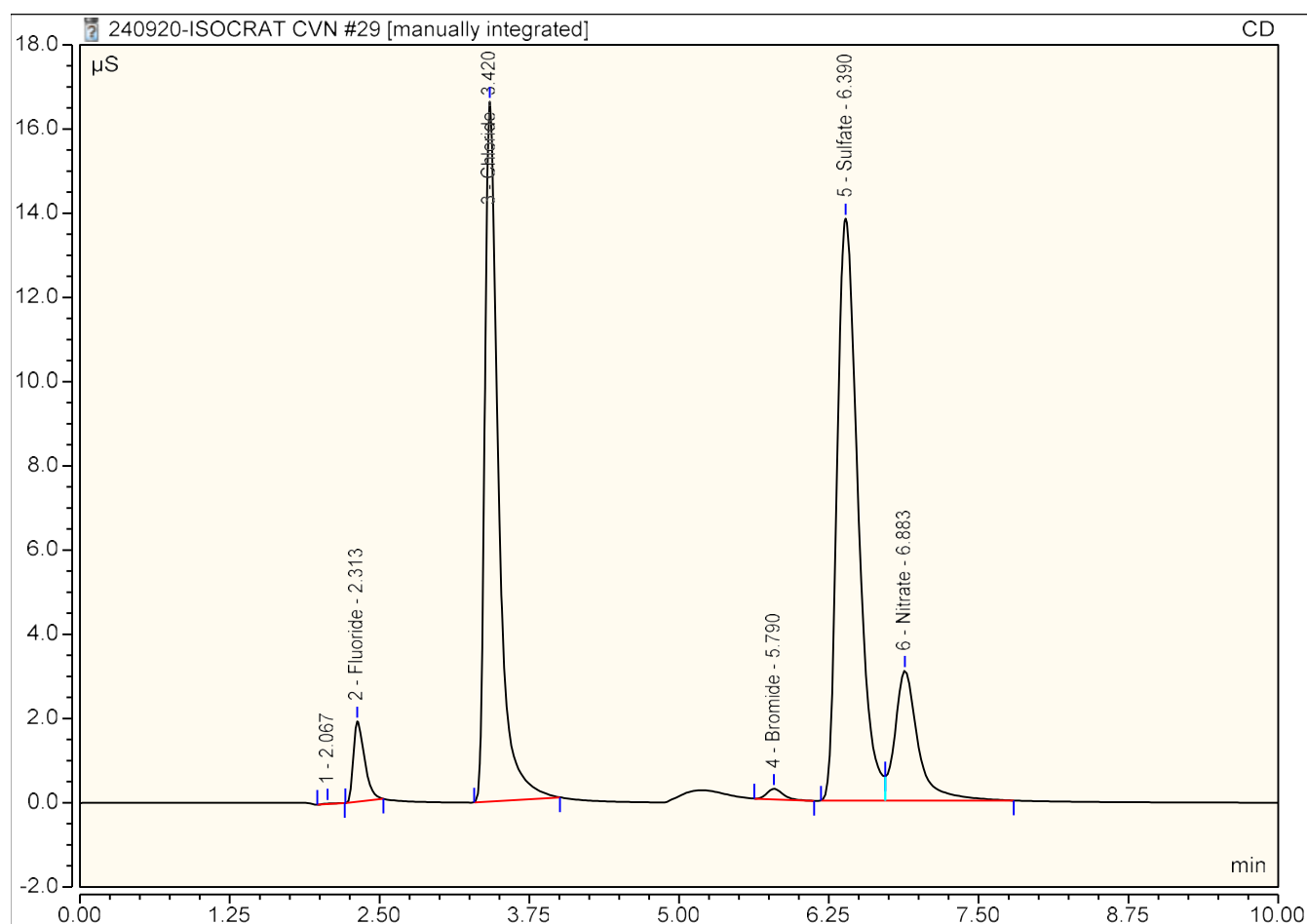
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.026	0.233	0.0927
3	3.42	Chloride	BMB*	3.059	22.918	7.6745
4	5.76	Bromide	BMB	0.002	0.013	0.0485
5	6.33	Sulfate	BM *	6.131	26.345	21.4740
6	6.91	Nitrate	MB*	0.174	0.552	0.1612
TOTAL:				9.39	50.06	29.45



Peak Integration Report

Sample Name:	L2453342-06 MS	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 13:17	Run Time:	10.00

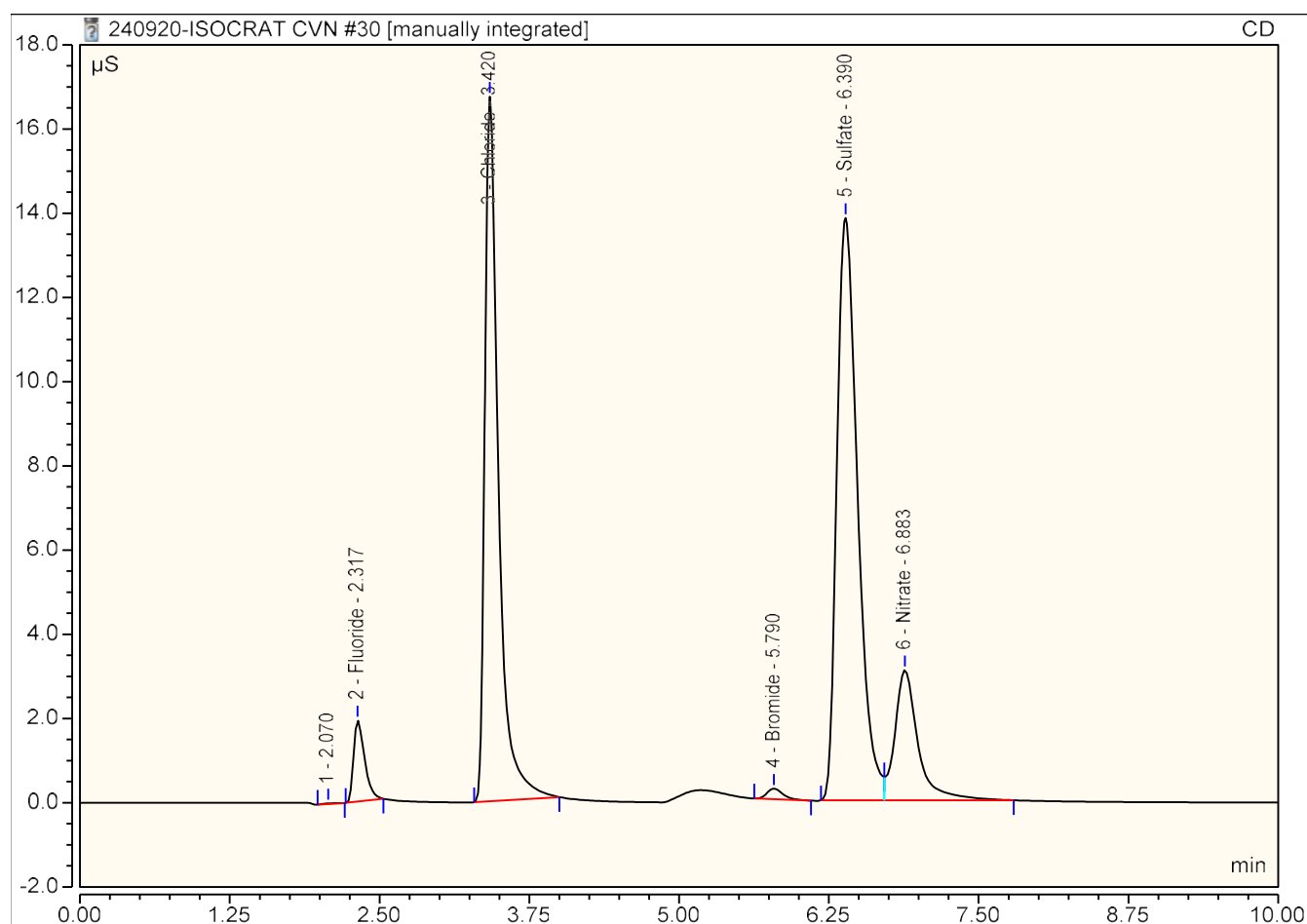
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S} \cdot \text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.206	1.911	0.4198
3	3.42	Chloride	BMB*	2.207	16.618	5.5950
4	5.79	Bromide	BMB	0.039	0.250	0.3560
5	6.39	Sulfate	BM *	2.784	13.821	9.9030
6	6.88	Nitrate	MB*	0.692	3.084	0.5673
TOTAL:				5.93	35.68	16.84



Peak Integration Report

Sample Name:	L2453342-06 MSD	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 13:29	Run Time:	10.00

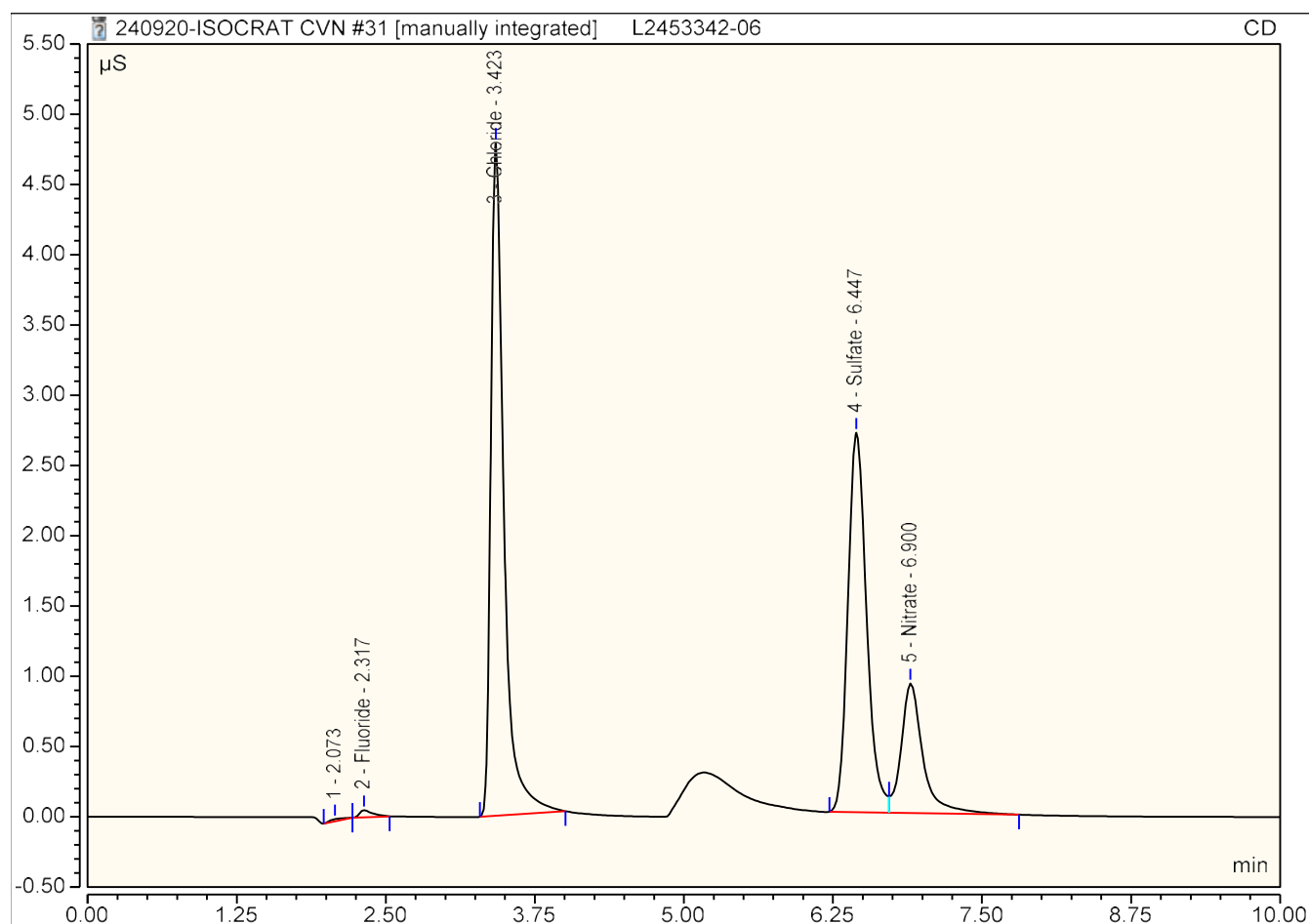
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.206	1.928	0.4199
3	3.42	Chloride	BMB*	2.204	16.736	5.5869
4	5.79	Bromide	BMB	0.039	0.251	0.3547
5	6.39	Sulfate	BM *	2.772	13.830	9.8624
6	6.88	Nitrate	MB*	0.692	3.091	0.5676
TOTAL:				5.91	35.84	16.79



Peak Integration Report

Sample Name:	L2453342-06	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 13:41	Run Time:	10.00

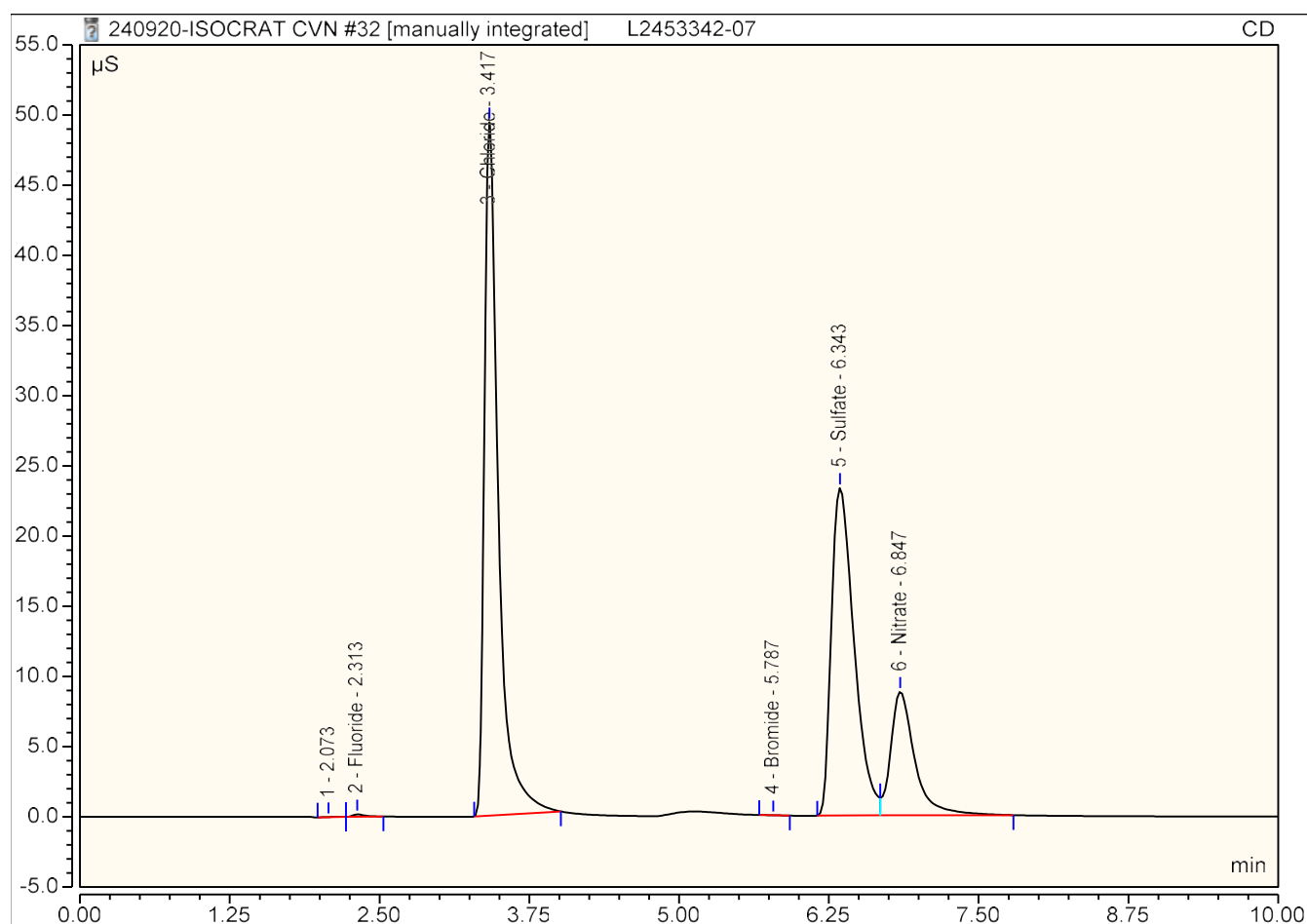
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.007	0.051	0.0564
3	3.42	Chloride	BMB*	0.610	4.789	1.6945
4	6.45	Sulfate	BM *	0.489	2.700	1.9668
5	6.90	Nitrate	MB*	0.195	0.922	0.1781
TOTAL:				1.30	8.46	3.90



Peak Integration Report

Sample Name:	L2453342-07	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 13:53	Run Time:	10.00

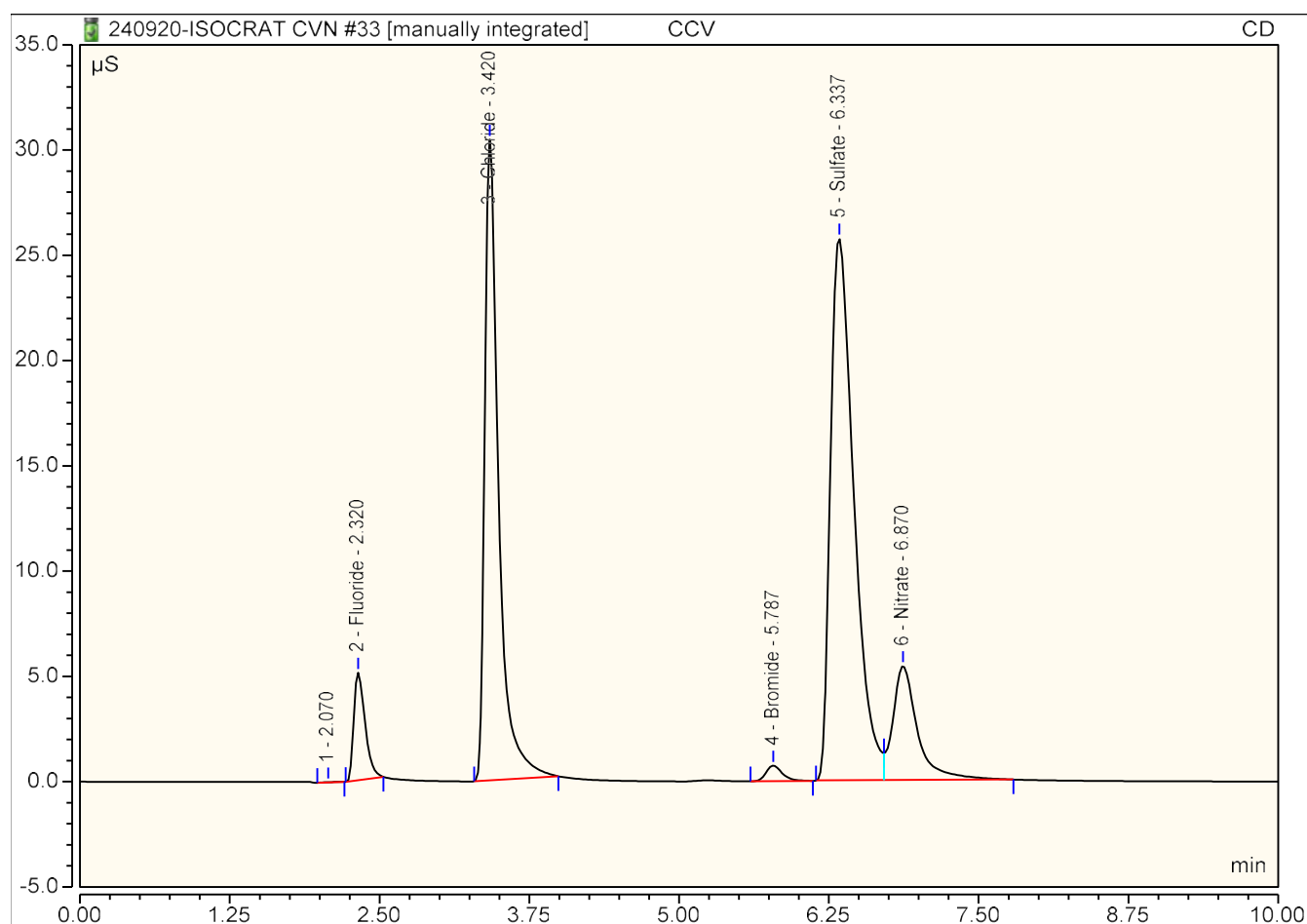
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.020	0.173	0.0814
3	3.42	Chloride	BMB*	6.695	49.395	16.5523
4	5.79	Bromide	BMB	0.002	0.012	0.0453
5	6.34	Sulfate	BM *	5.104	23.339	17.9245
6	6.85	Nitrate	MB*	2.050	8.814	1.6323
TOTAL:				13.87	81.73	36.24



Peak Integration Report

Sample Name:	CCV	Inj. Vol.:	25.00
Injection Type:	Check Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 14:05	Run Time:	10.00

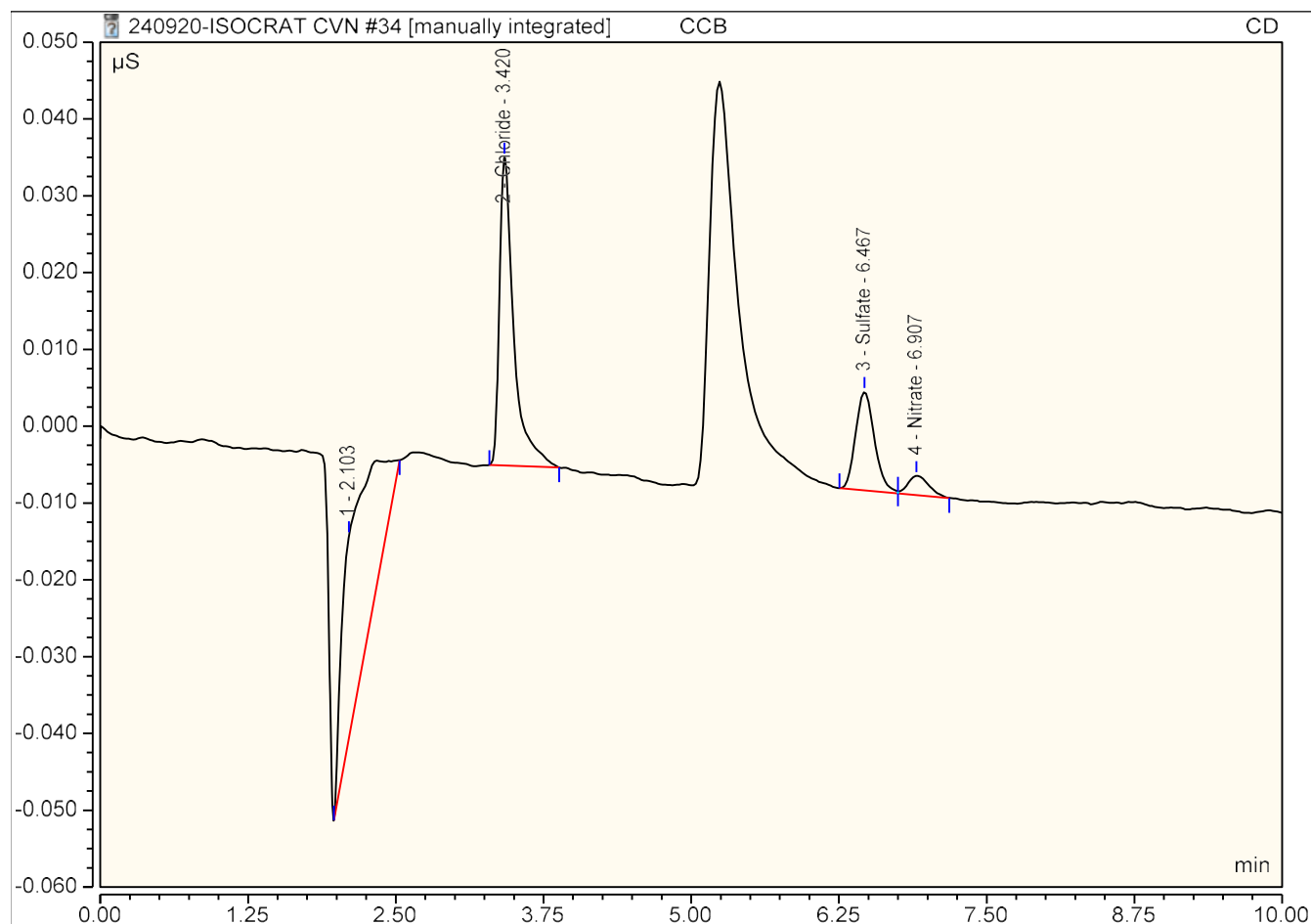
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.557	5.111	1.0597
3	3.42	Chloride	BMB*	4.082	30.434	10.1722
4	5.79	Bromide	BMB	0.117	0.747	1.0069
5	6.34	Sulfate	BM *	5.831	25.742	20.4383
6	6.87	Nitrate	MB*	1.290	5.420	1.0362
TOTAL:				11.88	67.45	33.71



Peak Integration Report

Sample Name:	CCB	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 14:17	Run Time:	10.00

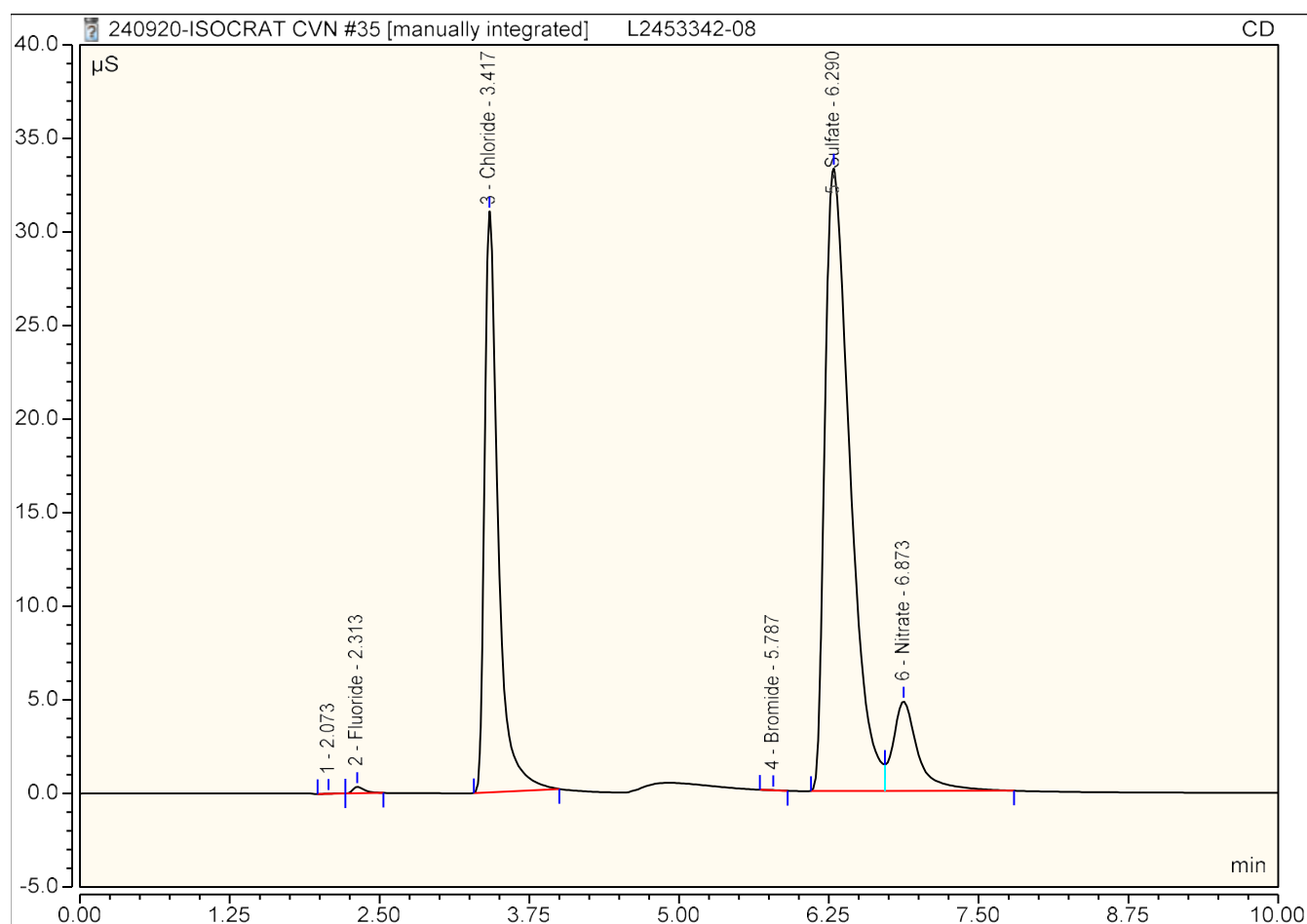
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	3.42	Chloride	BMB*	0.006	0.040	0.2193
3	6.47	Sulfate	BM *	0.002	0.013	0.2848
4	6.91	Nitrate	MB*	0.001	0.003	0.0256
TOTAL:				0.01	0.06	0.53



Peak Integration Report

Sample Name:	L2453342-08	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 14:29	Run Time:	10.00

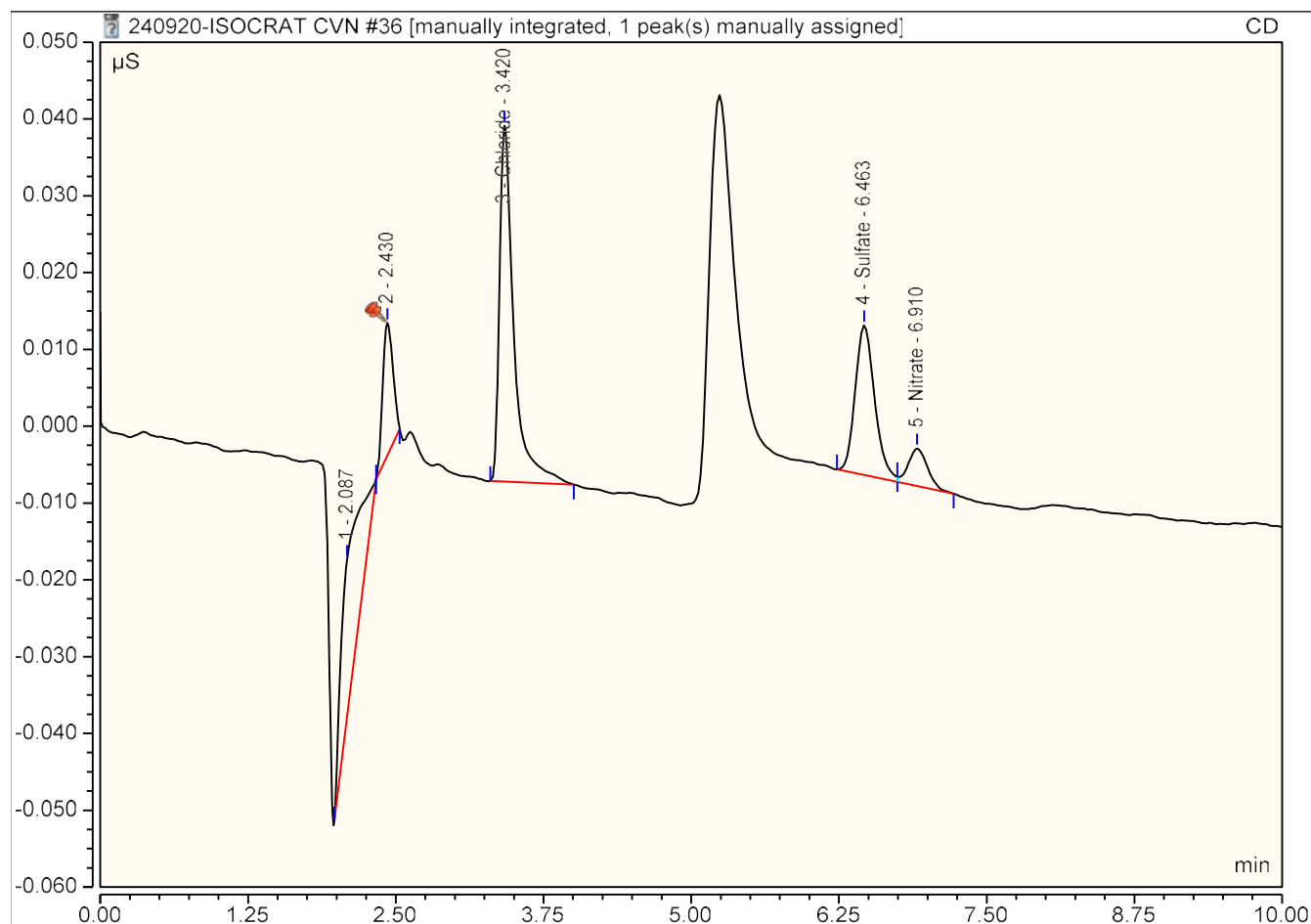
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.038	0.344	0.1145
3	3.42	Chloride	BMB*	4.094	31.038	10.2015
4	5.79	Bromide	BMB	0.001	0.008	0.0401
5	6.29	Sulfate	BM *	8.083	33.261	28.2230
6	6.87	Nitrate	MB*	1.164	4.781	0.9376
TOTAL:				13.38	69.43	39.52



Peak Integration Report

Sample Name:	L2453342-10	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 14:41	Run Time:	10.00

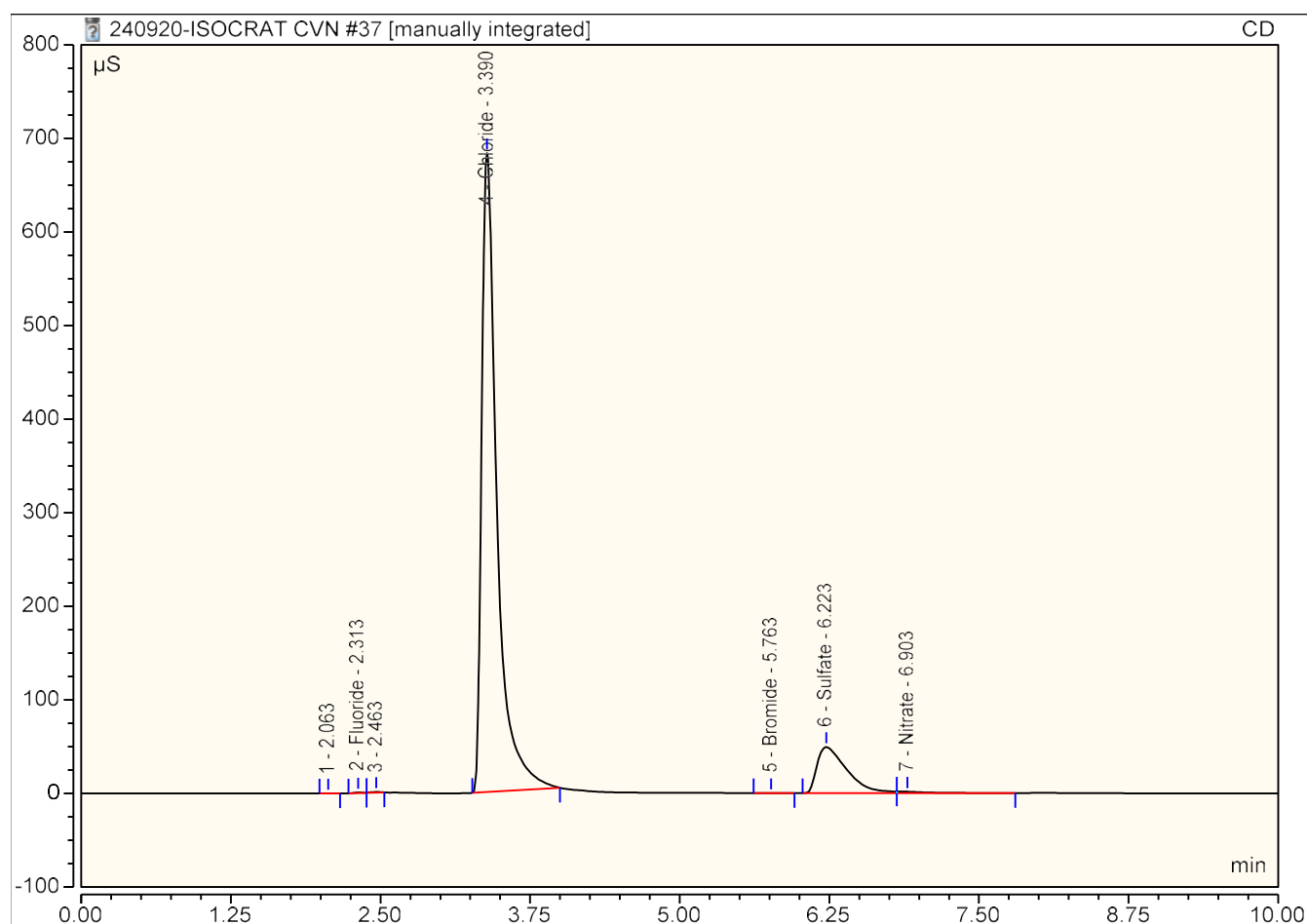
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
3	3.42	Chloride	BMB*	0.006	0.046	0.2214
4	6.46	Sulfate	BM *	0.004	0.019	0.2894
5	6.91	Nitrate	MB*	0.001	0.005	0.0260
TOTAL:				0.01	0.07	0.54



Peak Integration Report

Sample Name:	L2453250-01 BR CL SO4	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 14:53	Run Time:	10.00

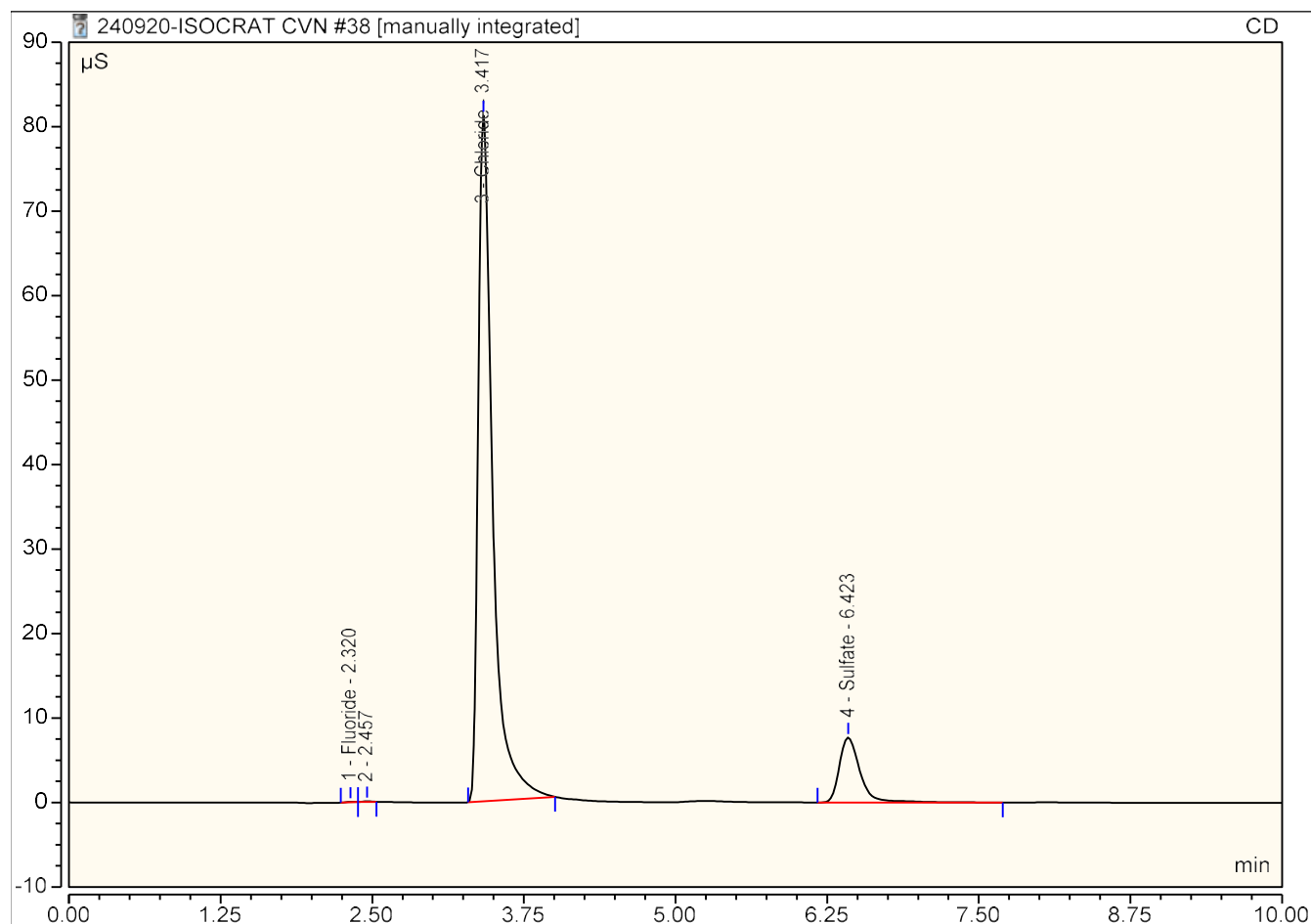
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.049	0.641	0.1337
4	3.39	Chloride	BMB*	101.168	682.817	247.2077
5	5.76	Bromide	BMB	0.020	0.137	0.1955
6	6.22	Sulfate	BM *	14.172	49.271	49.2784
7	6.90	Nitrate	MB*	0.472	1.545	0.3949
TOTAL:				115.88	734.41	297.21



Peak Integration Report

Sample Name:	L2453250-01; 10X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 15:06	Run Time:	10.00

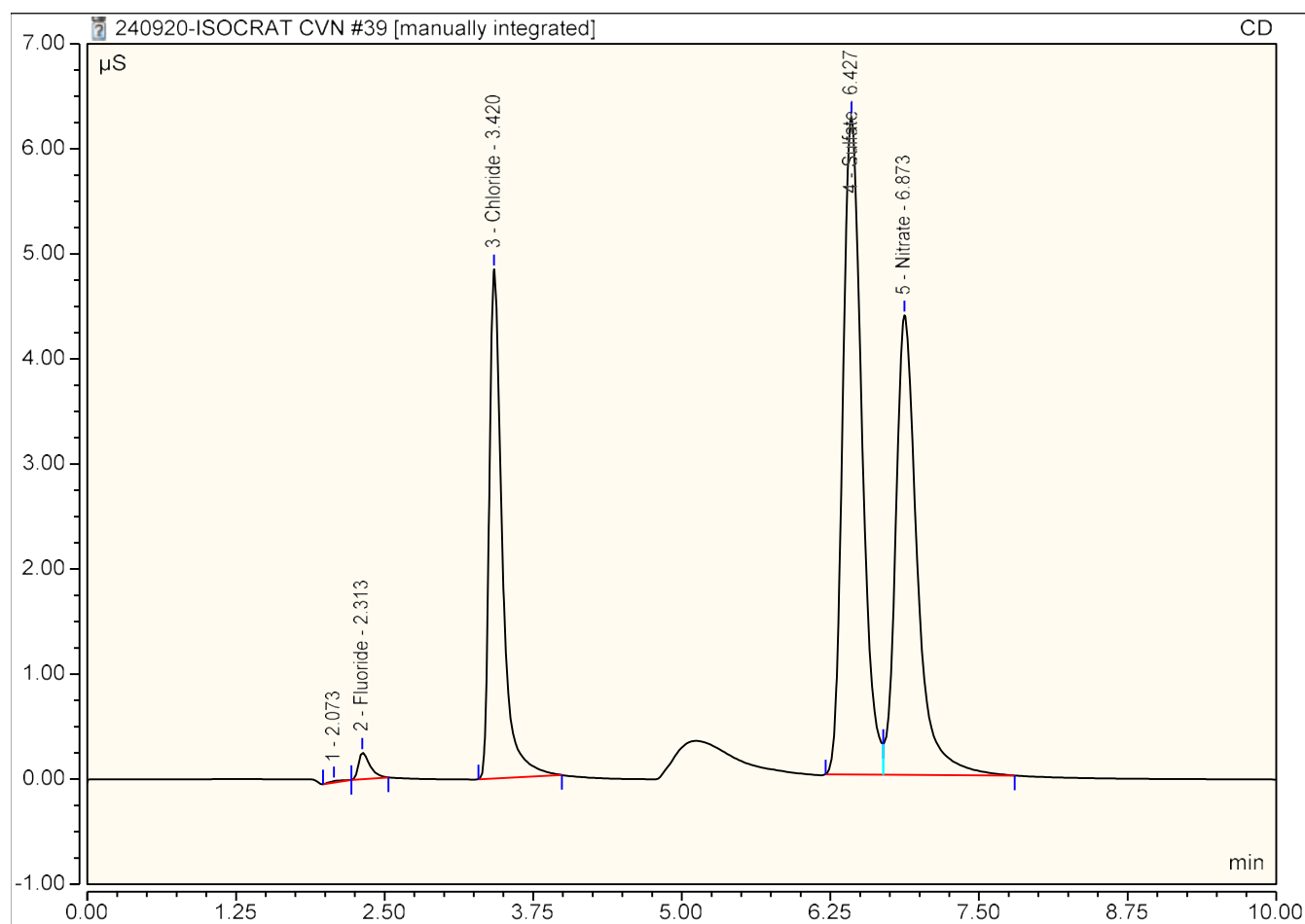
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
1	2.32	Fluoride	BMB	0.004	0.053	0.5188
3	3.42	Chloride	BMB*	11.214	81.163	275.8528
4	6.42	Sulfate	BMB	1.526	7.678	55.5150
TOTAL:				12.74	88.89	331.89



Peak Integration Report

Sample Name:	L2453058-01 CL SO4 BR	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 15:18	Run Time:	10.00

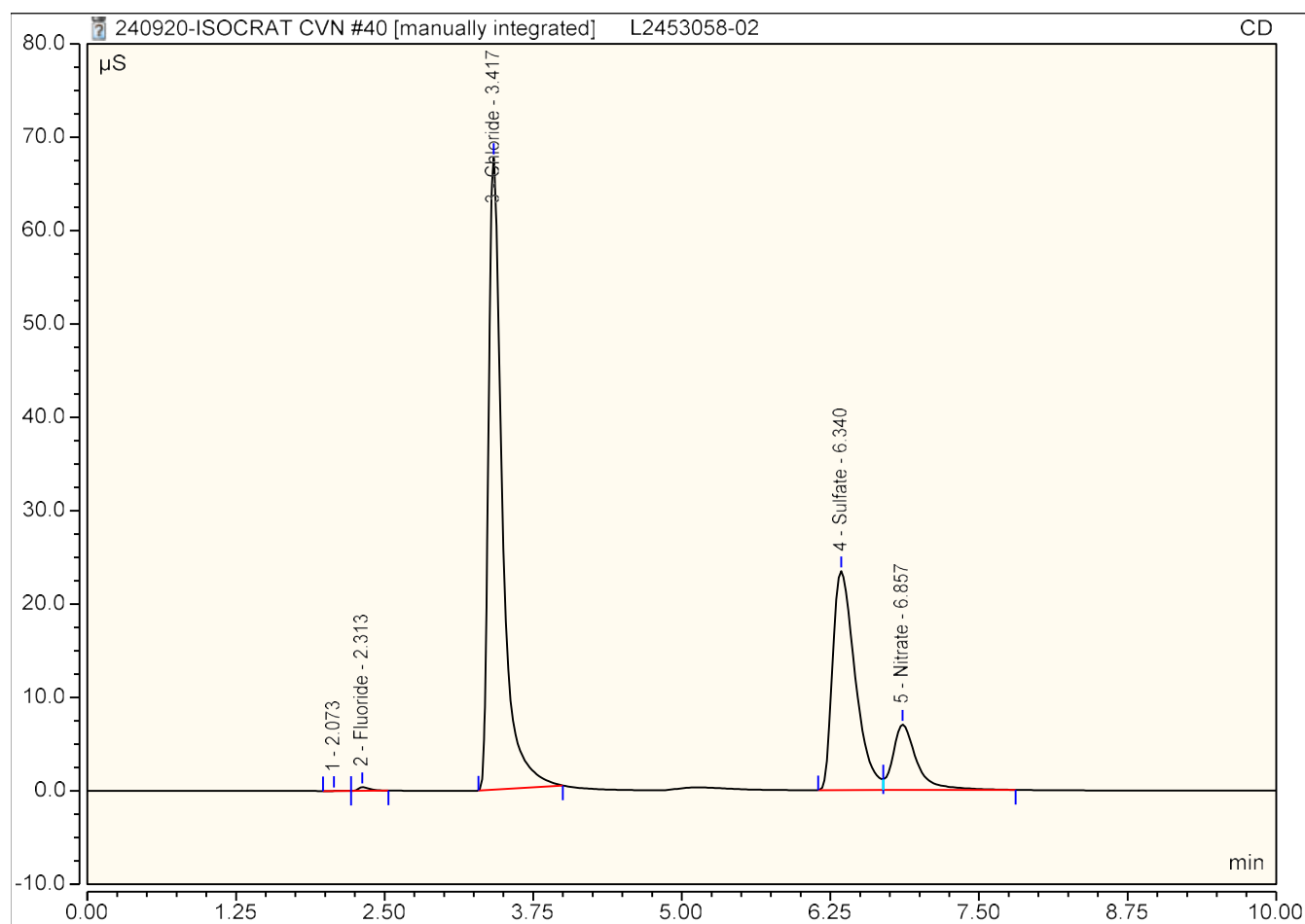
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.028	0.253	0.0961
3	3.42	Chloride	BMB*	0.616	4.848	1.7085
4	6.43	Sulfate	BM *	1.165	6.259	4.3049
5	6.87	Nitrate	MB*	0.919	4.373	0.7453
TOTAL:				2.73	15.73	6.85



Peak Integration Report

Sample Name:	L2453058-02	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 15:30	Run Time:	10.00

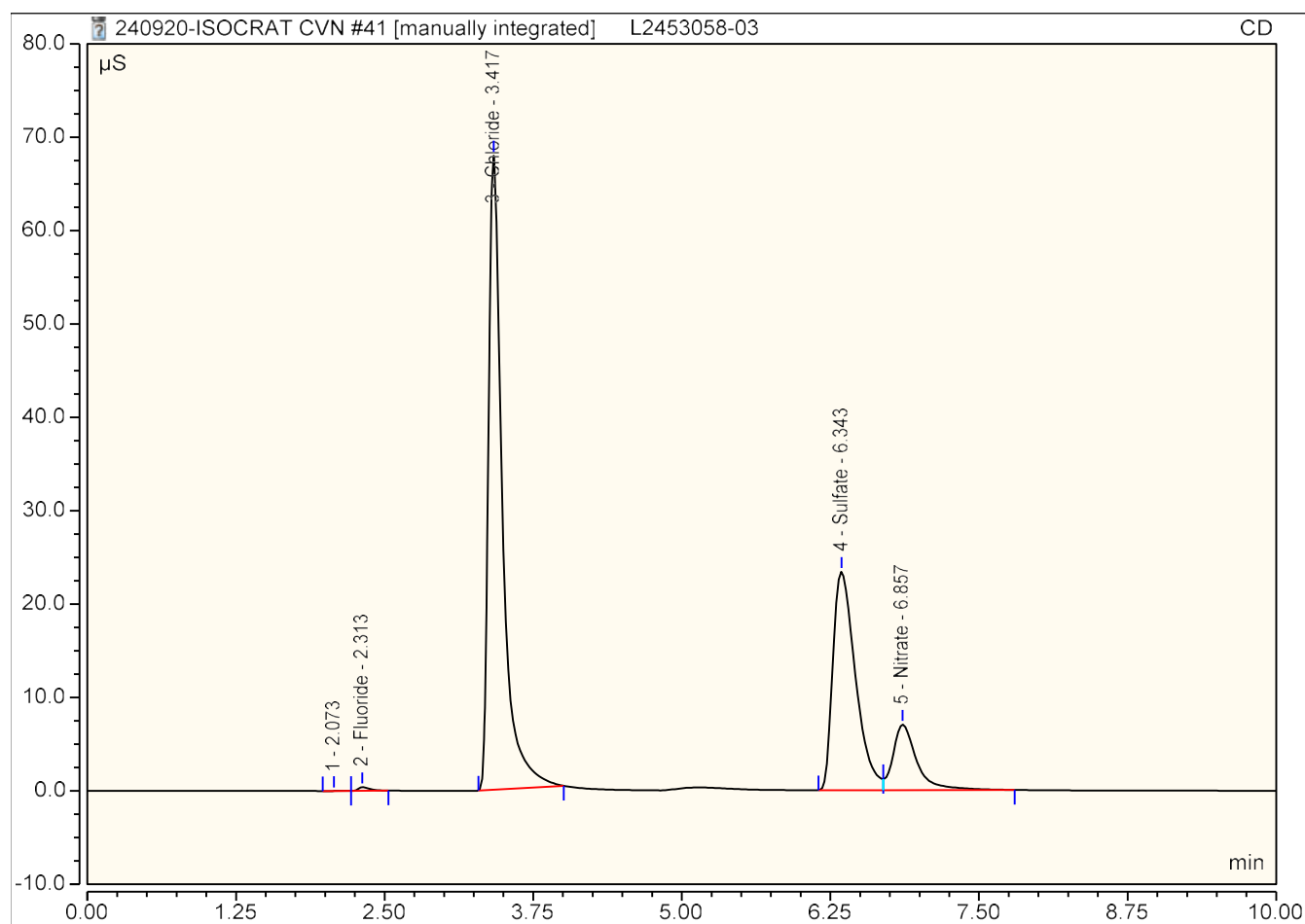
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.043	0.398	0.1235
3	3.42	Chloride	BMB*	9.246	67.646	22.7801
4	6.34	Sulfate	BM *	5.155	23.444	18.0996
5	6.86	Nitrate	MB*	1.624	7.016	1.2980
TOTAL:				16.07	98.50	42.30



Peak Integration Report

Sample Name:	L2453058-03	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 15:42	Run Time:	10.00

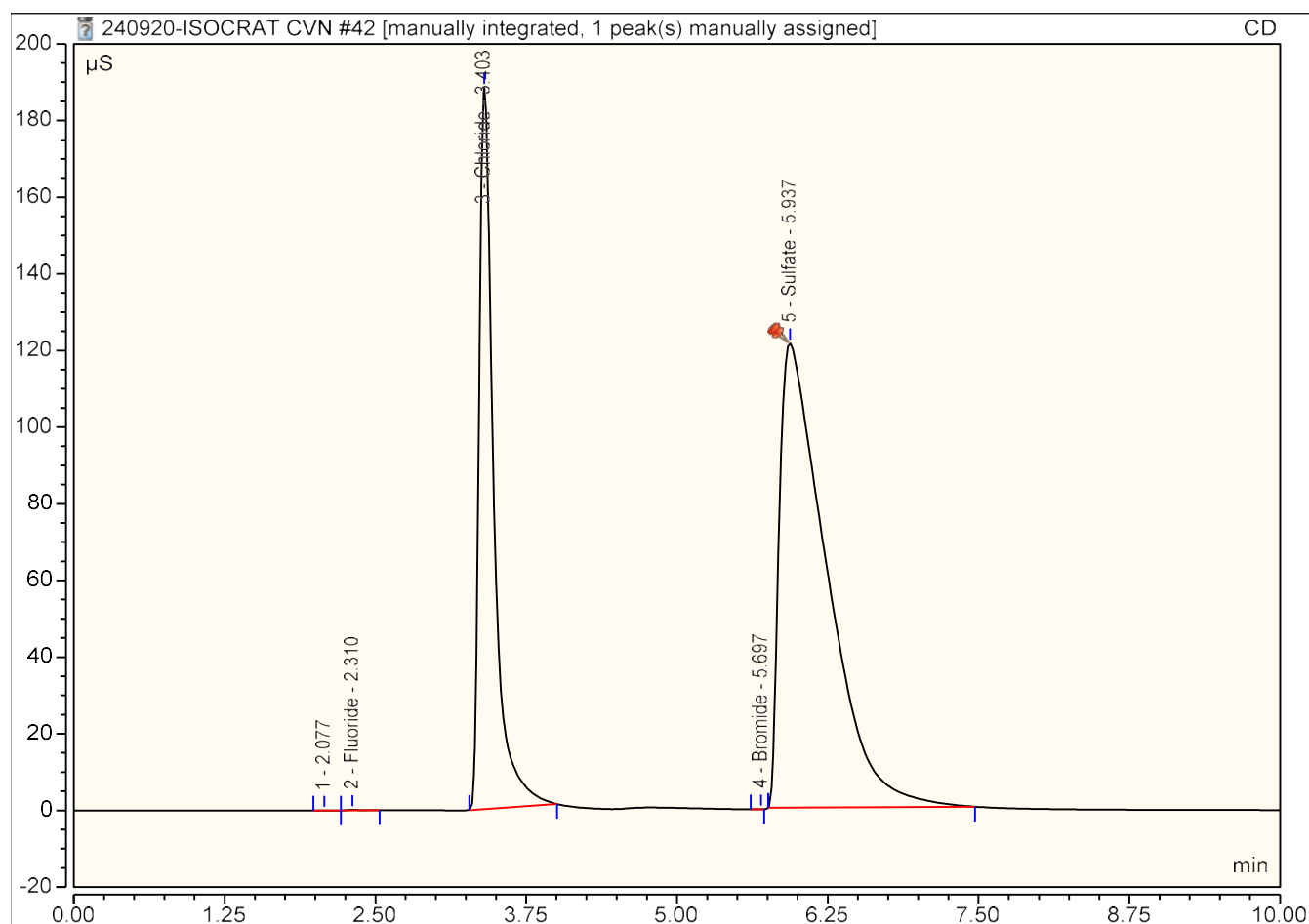
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.043	0.398	0.1237
3	3.42	Chloride	BMB*	9.265	67.914	22.8251
4	6.34	Sulfate	BM *	5.159	23.400	18.1147
5	6.86	Nitrate	MB*	1.621	7.010	1.2960
TOTAL:				16.09	98.72	42.36



Peak Integration Report

Sample Name:	XL2453985-01 CL SO4 NO3	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 15:54	Run Time:	10.00

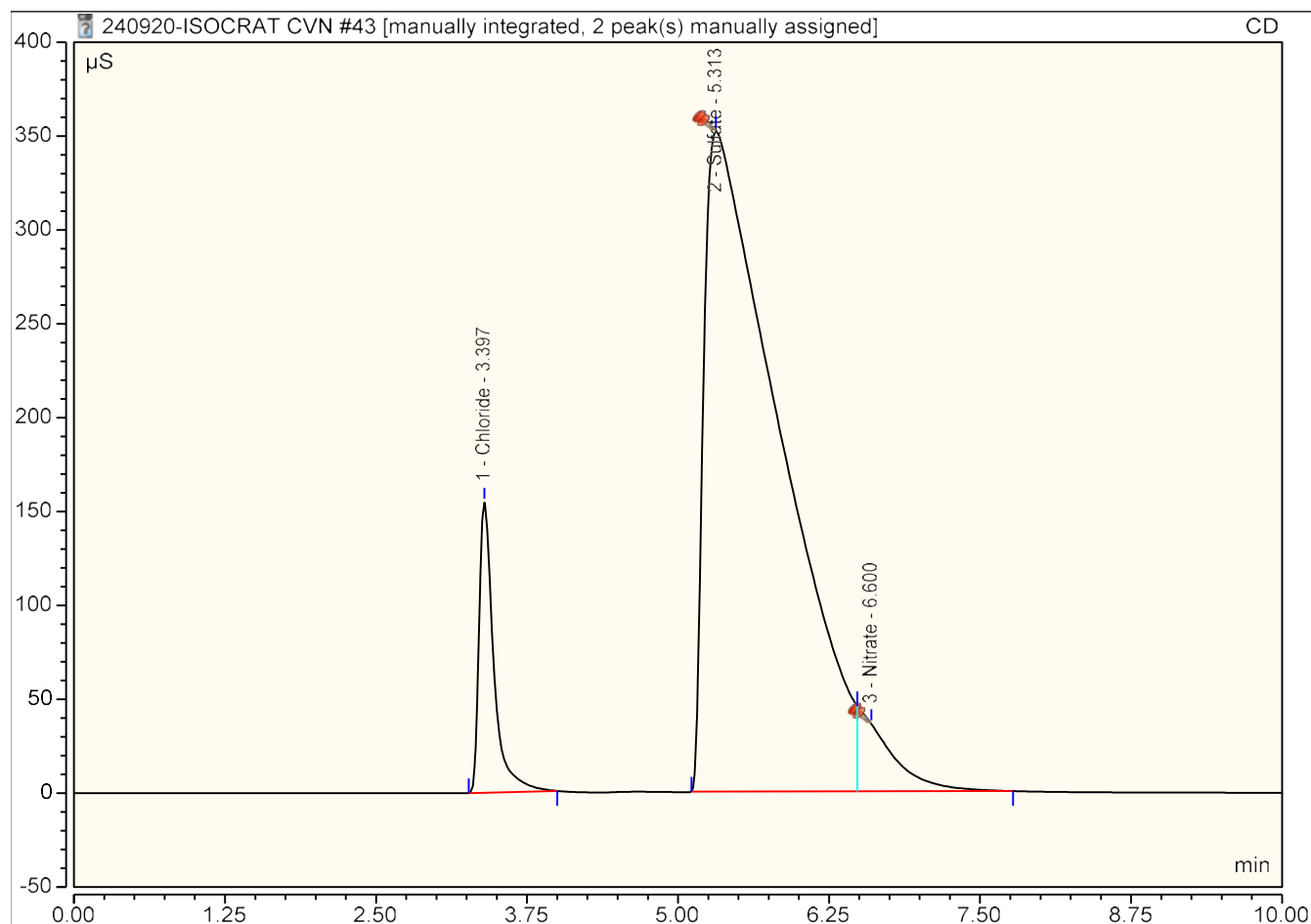
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.015	0.120	0.0717
3	3.40	Chloride	BMB*	26.544	188.241	65.0129
4	5.70	Bromide	BMB	0.001	0.012	0.0403
5	5.94	Sulfate	BMB*^	54.871	121.178	189.9967
TOTAL:				81.43	309.55	255.12



Peak Integration Report

Sample Name:	XL2453985-02	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 16:06	Run Time:	10.00

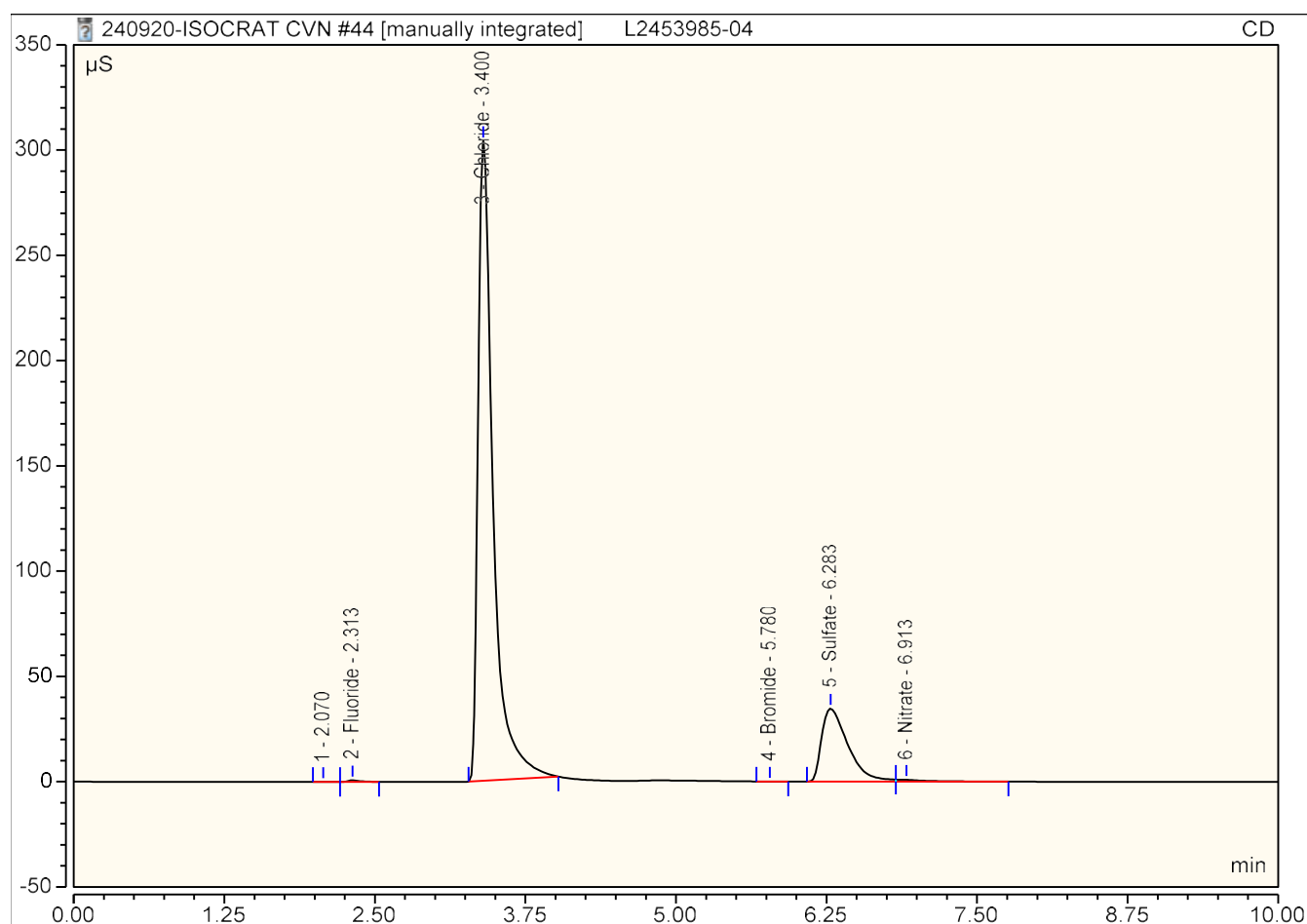
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
1	3.40	Chloride	BMB*	21.888	154.556	53.6439
2	5.31	Sulfate	BM *^	255.259	351.732	882.8567
3	6.60	Nitrate	MB*^	13.736	35.841	10.7924
TOTAL:				290.88	542.13	947.29



Peak Integration Report

Sample Name:	L2453985-04	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 16:18	Run Time:	10.00

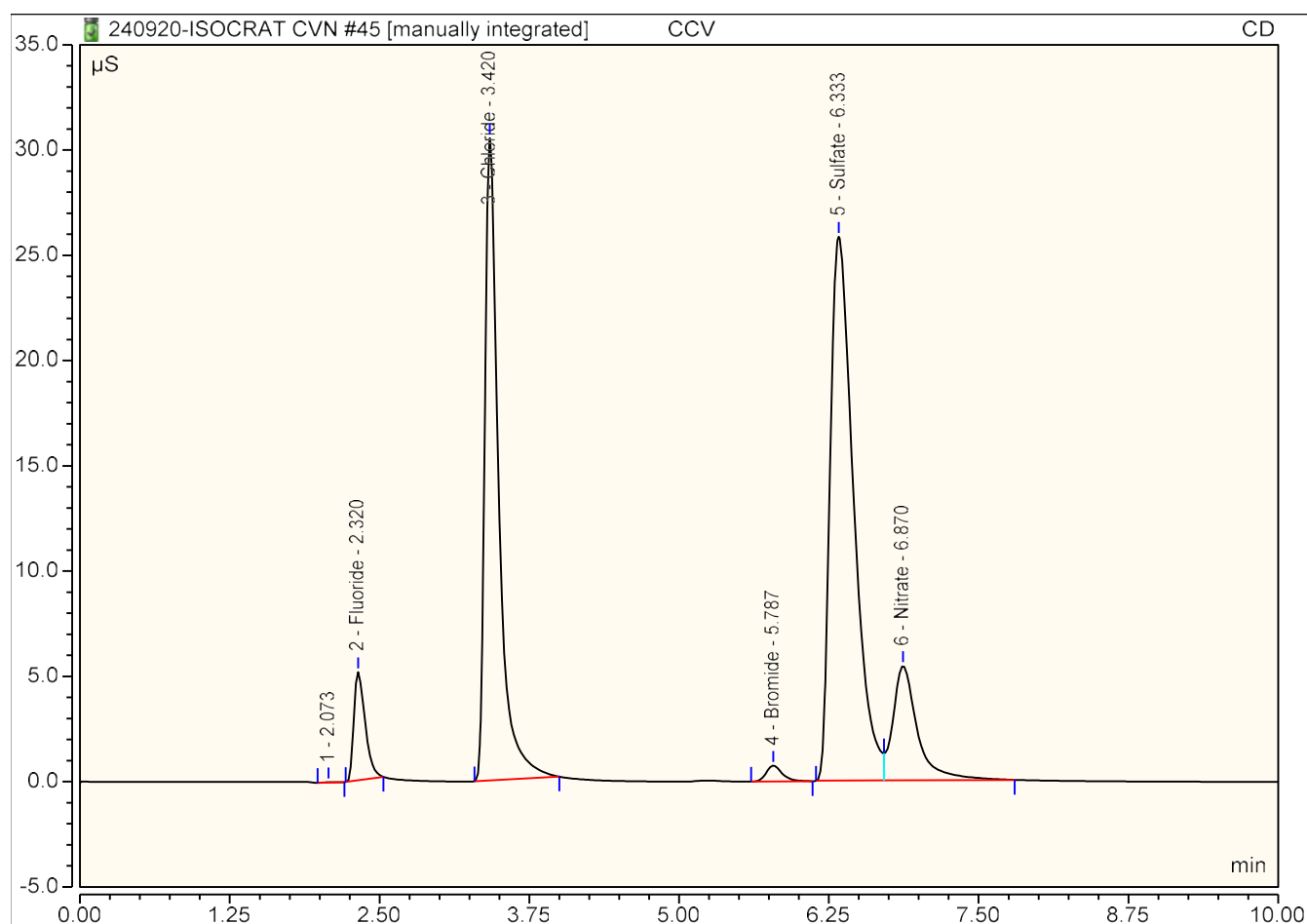
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.076	0.691	0.1828
3	3.40	Chloride	BMB*	43.927	303.850	107.4539
4	5.78	Bromide	BMB	0.002	0.018	0.0511
5	6.28	Sulfate	BM *	8.760	34.725	30.5639
6	6.91	Nitrate	MB*	0.271	0.888	0.2374
TOTAL:				53.04	340.17	138.49



Peak Integration Report

Sample Name:	CCV	Inj. Vol.:	25.00
Injection Type:	Check Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 16:30	Run Time:	10.00

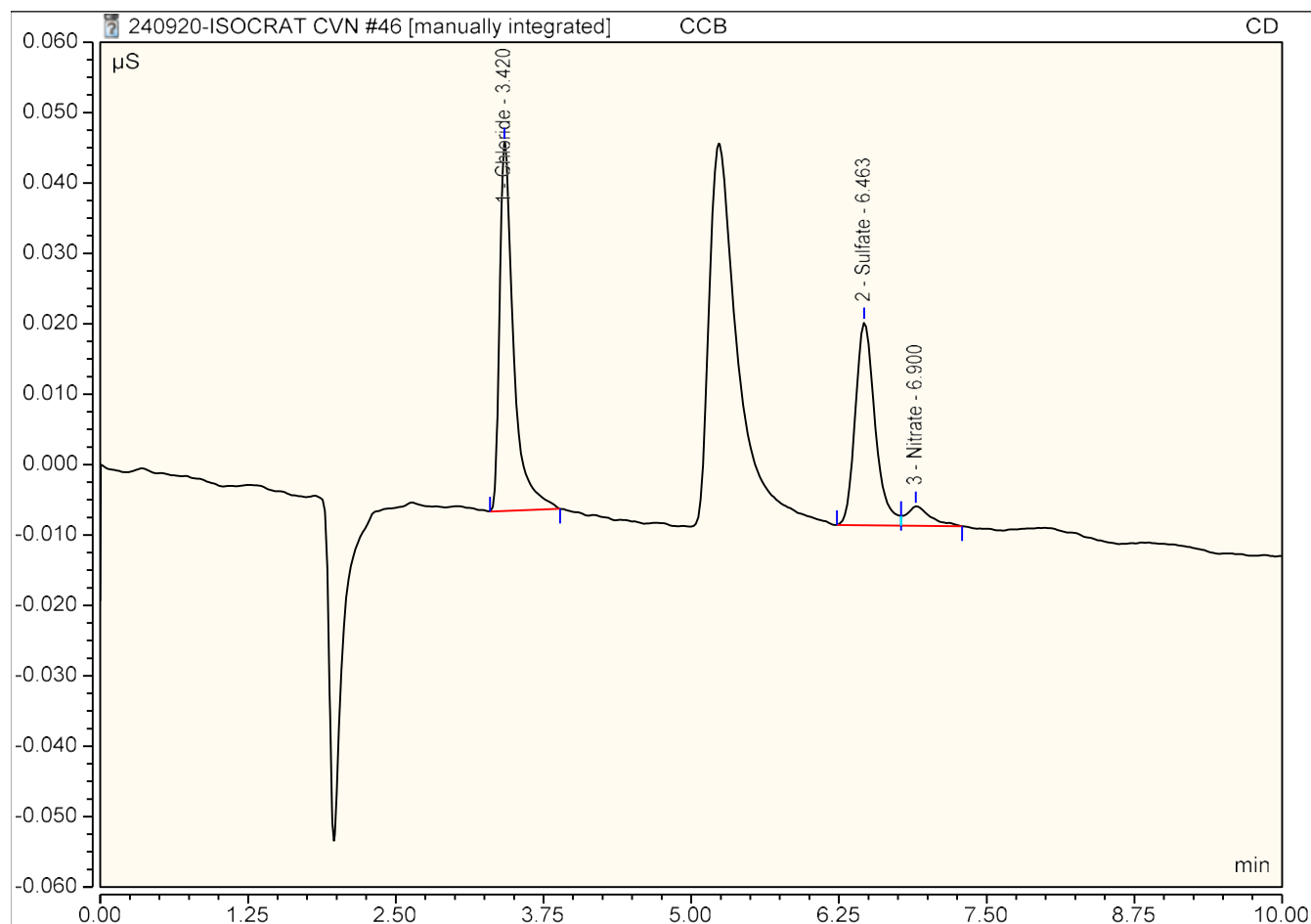
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.561	5.141	1.0682
3	3.42	Chloride	BMB*	4.104	30.511	10.2266
4	5.79	Bromide	BMB	0.118	0.755	1.0121
5	6.33	Sulfate	BM *	5.851	25.831	20.5060
6	6.87	Nitrate	MB*	1.292	5.438	1.0383
TOTAL:				11.93	67.67	33.85



Peak Integration Report

Sample Name:	CCB	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 16:42	Run Time:	10.00

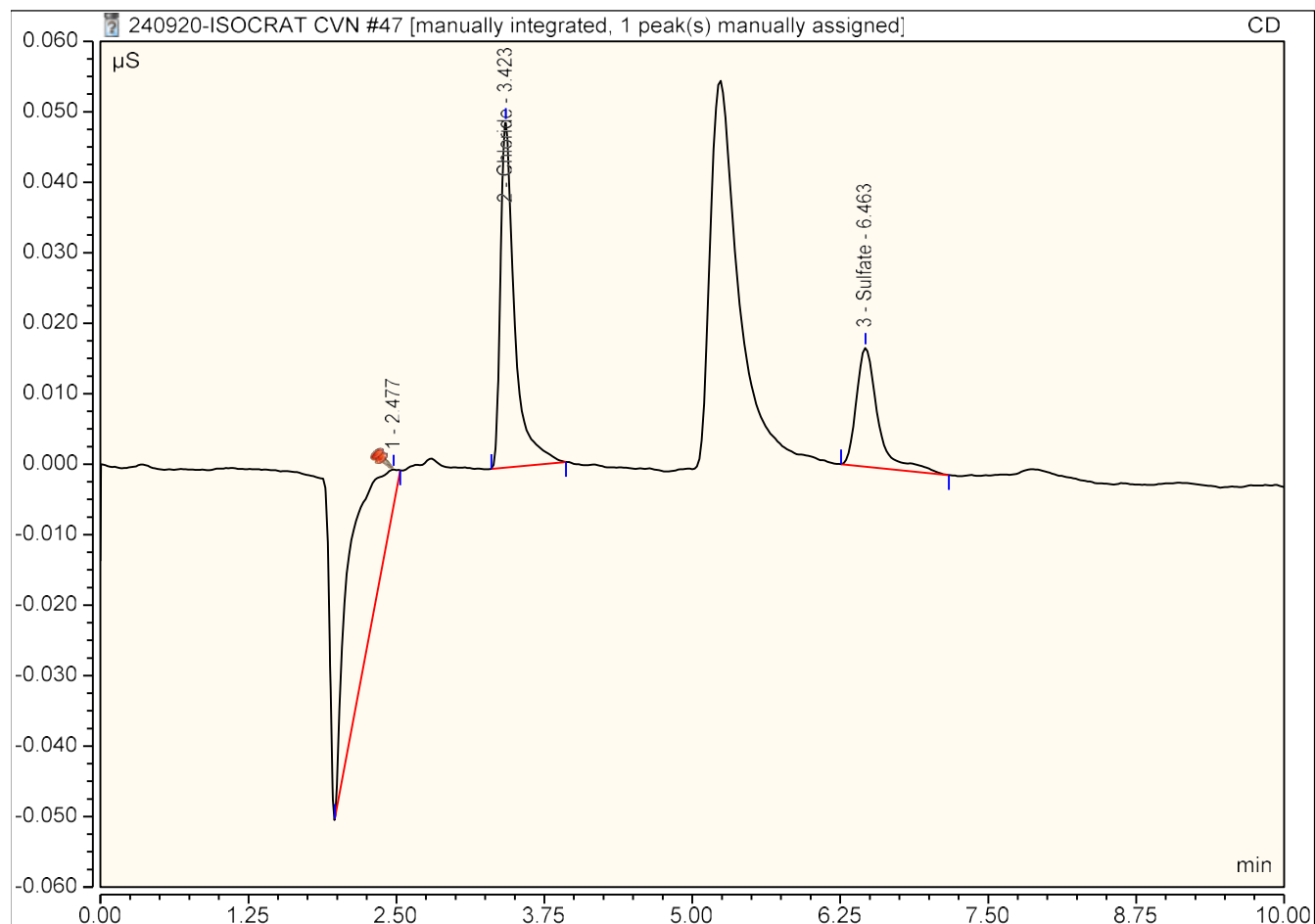
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
1	3.42	Chloride	BMB*	0.007	0.052	0.2230
2	6.46	Sulfate	BM *	0.006	0.029	0.2959
3	6.90	Nitrate	MB*	0.001	0.003	0.0258
TOTAL:				0.01	0.08	0.54



Peak Integration Report

Sample Name:	BLK-2	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 16:54	Run Time:	10.00

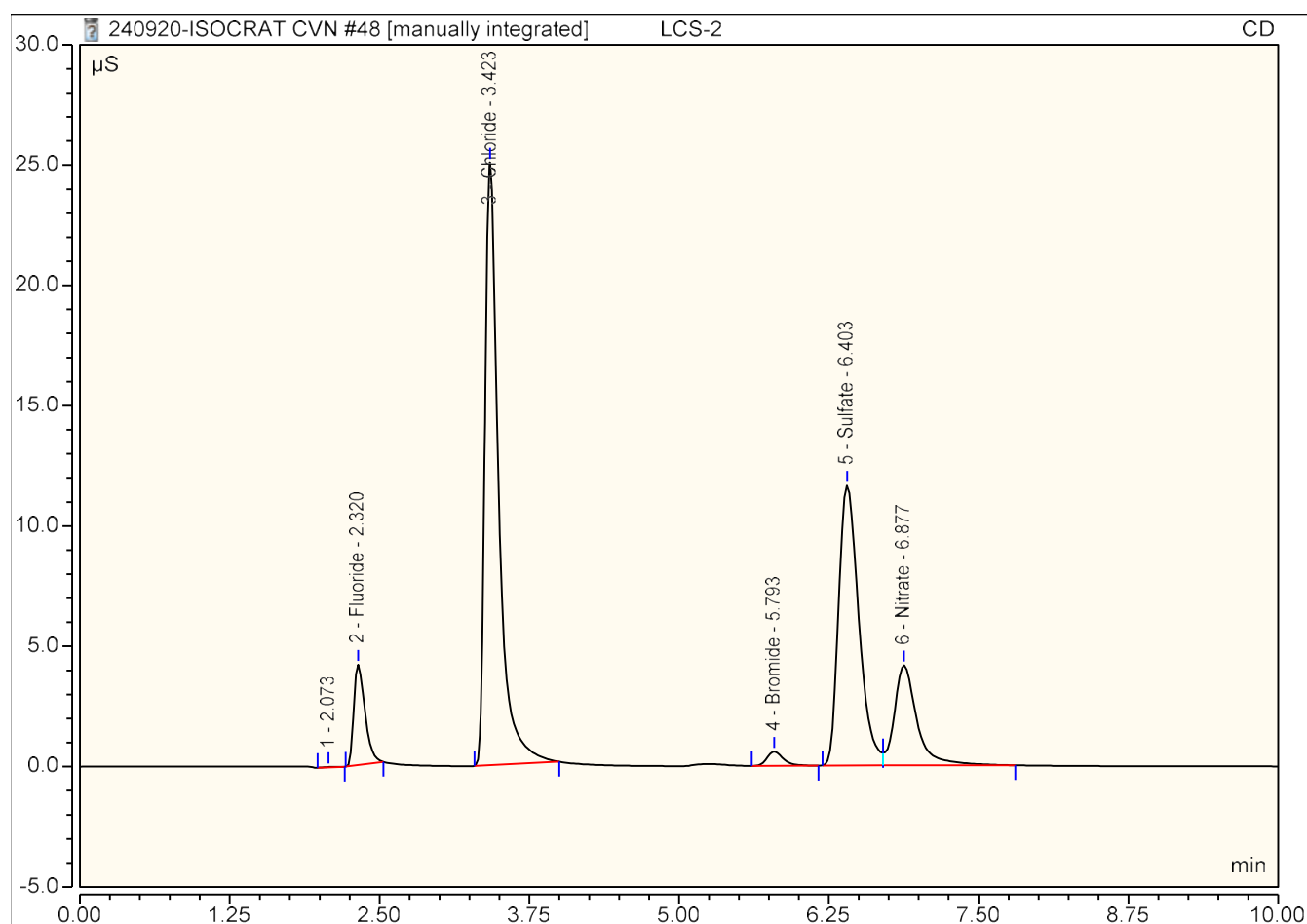
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	3.42	Chloride	BMB*	0.007	0.049	0.2221
3	6.46	Sulfate	BMB	0.004	0.017	0.2889
TOTAL:				0.01	0.07	0.51



Peak Integration Report

Sample Name:	LCS-2	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 17:06	Run Time:	10.00

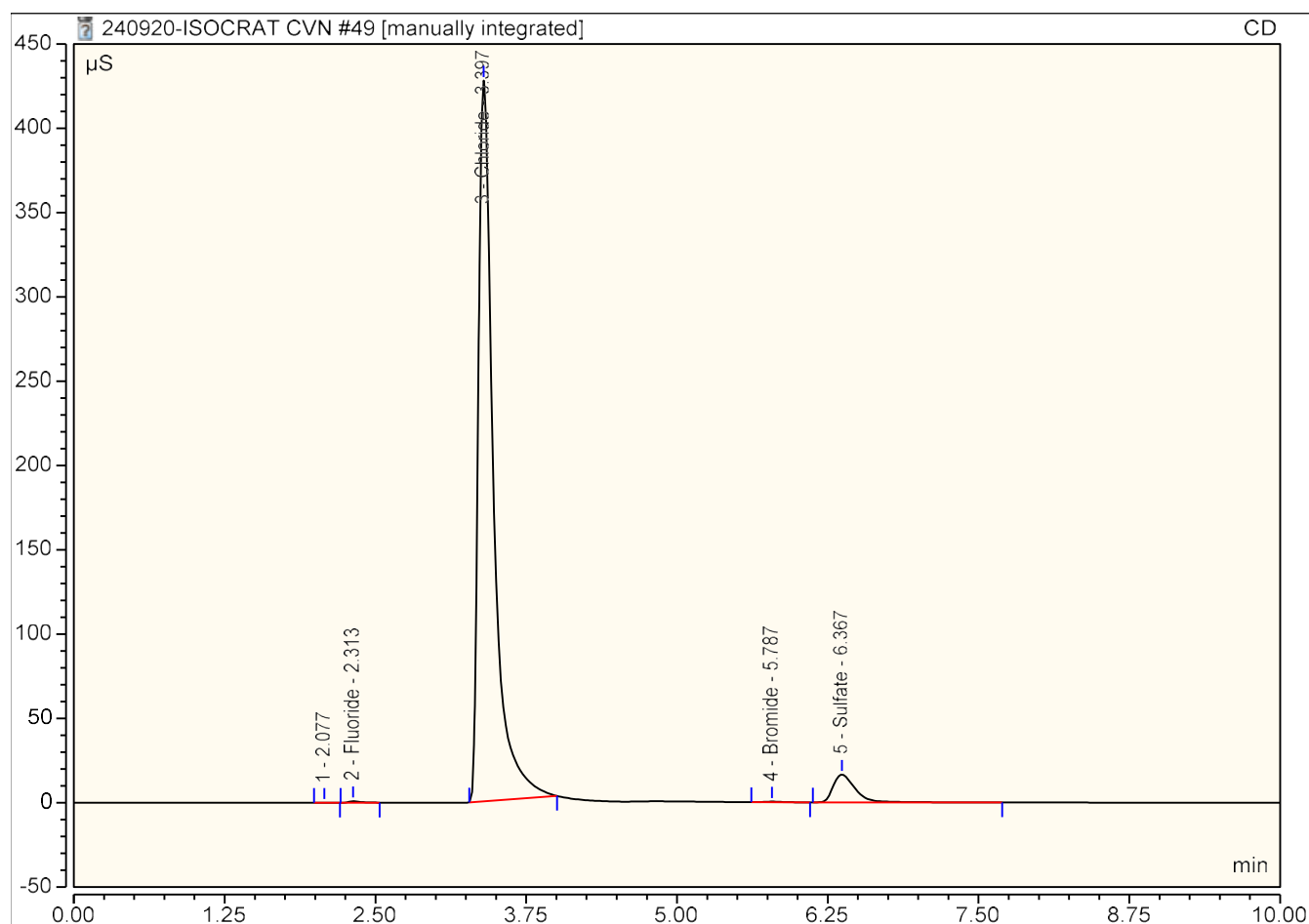
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.450	4.183	0.8660
3	3.42	Chloride	BMB*	3.335	25.045	8.3482
4	5.79	Bromide	BMB	0.095	0.596	0.8184
5	6.40	Sulfate	BM *	2.272	11.634	8.1306
6	6.88	Nitrate	MB*	0.910	4.165	0.7383
TOTAL:				7.06	45.62	18.90



Peak Integration Report

Sample Name:	XL2453433-01 CL	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 17:19	Run Time:	10.00

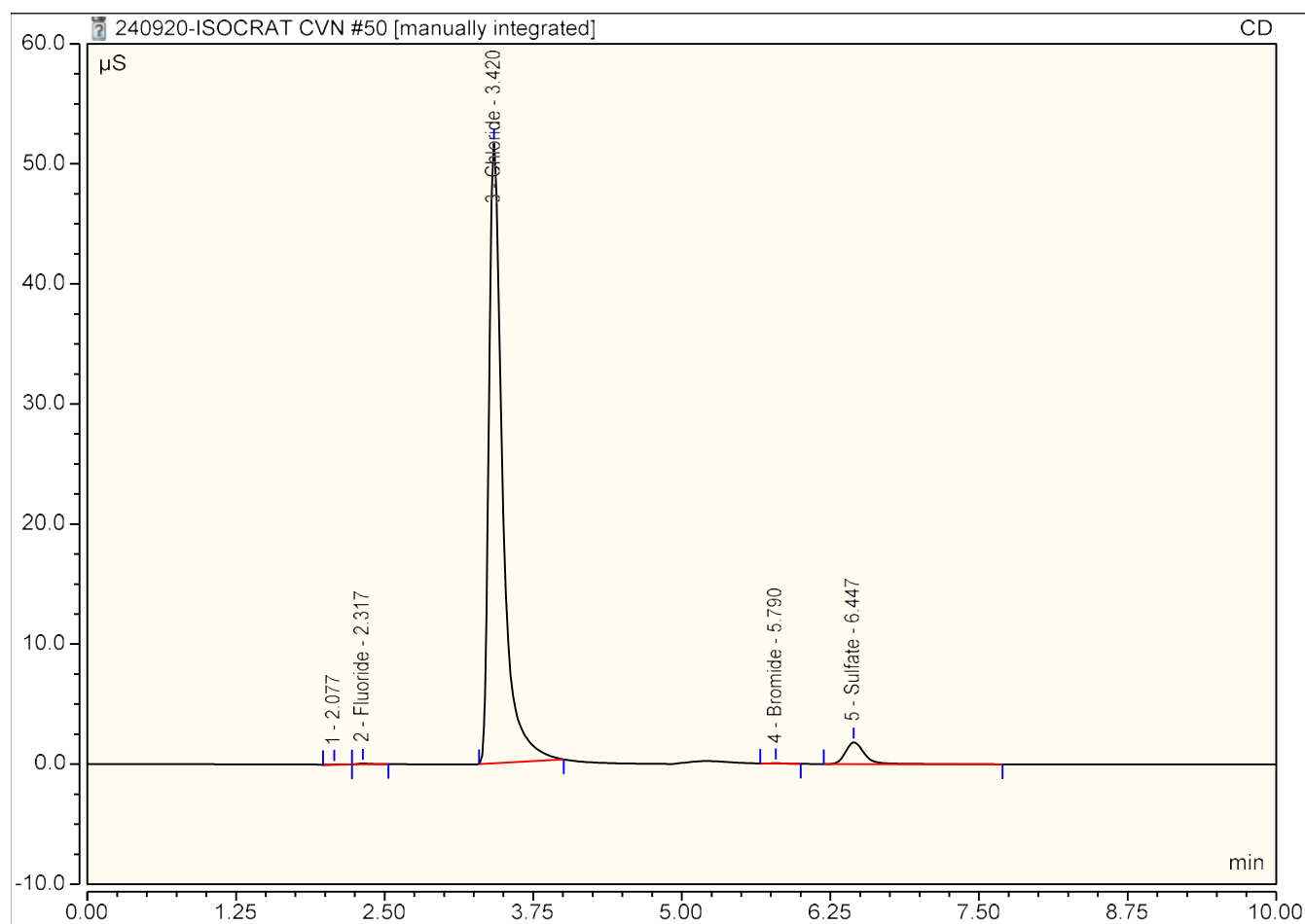
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.094	0.850	0.2159
3	3.40	Chloride	BMB*	62.103	427.320	151.8308
4	5.79	Bromide	BMB	0.061	0.392	0.5377
5	6.37	Sulfate	BMB	3.526	16.480	12.4674
TOTAL:				65.78	445.04	165.05



Peak Integration Report

Sample Name:	L2453433-01; 10X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 17:31	Run Time:	10.00

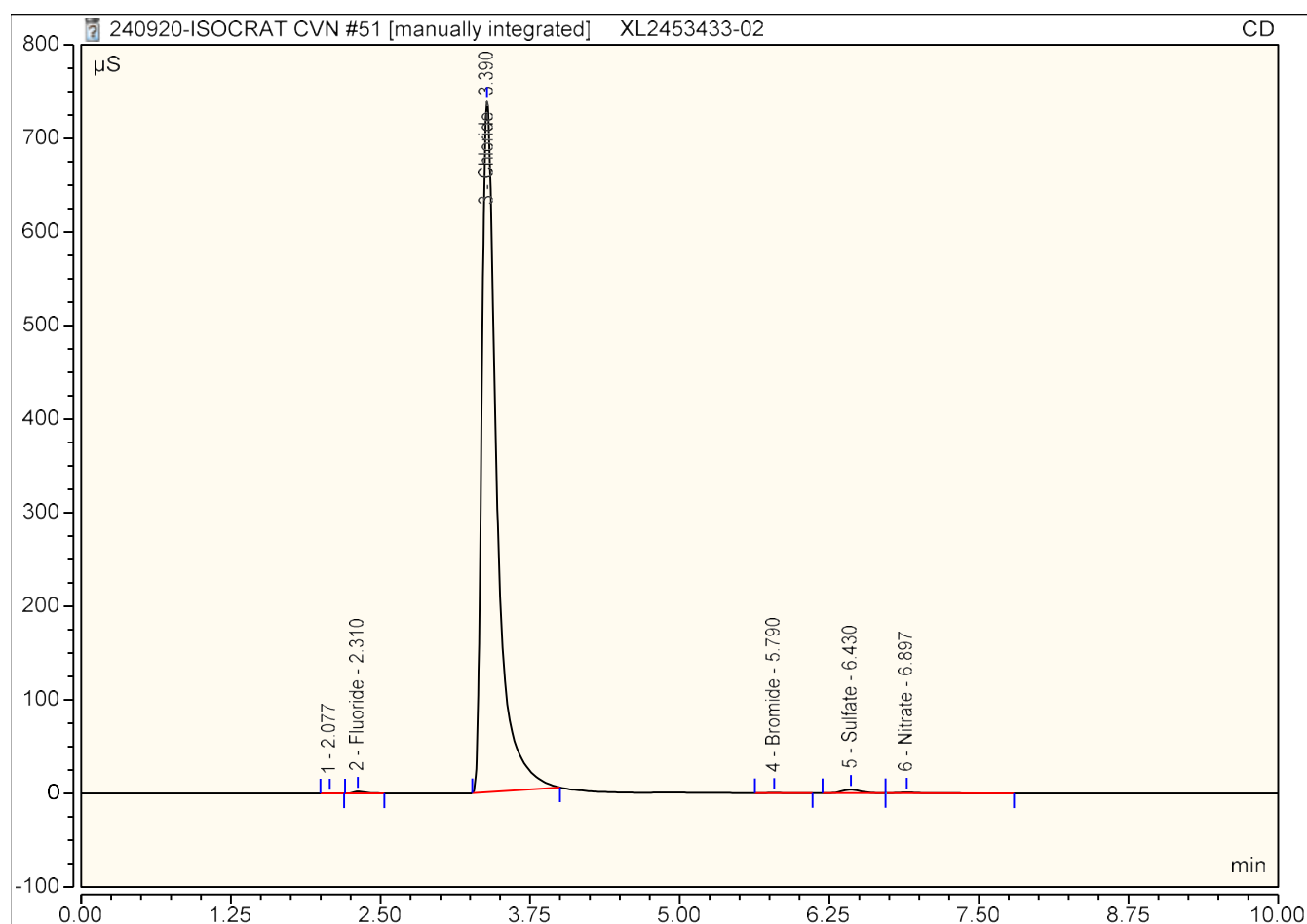
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.010	0.079	0.6233
3	3.42	Chloride	BMB*	6.974	51.640	172.3261
4	5.79	Bromide	BMB	0.005	0.033	0.7120
5	6.45	Sulfate	BMB	0.341	1.818	14.5484
TOTAL:				7.33	53.57	188.21



Peak Integration Report

Sample Name:	XL2453433-02	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 17:43	Run Time:	10.00

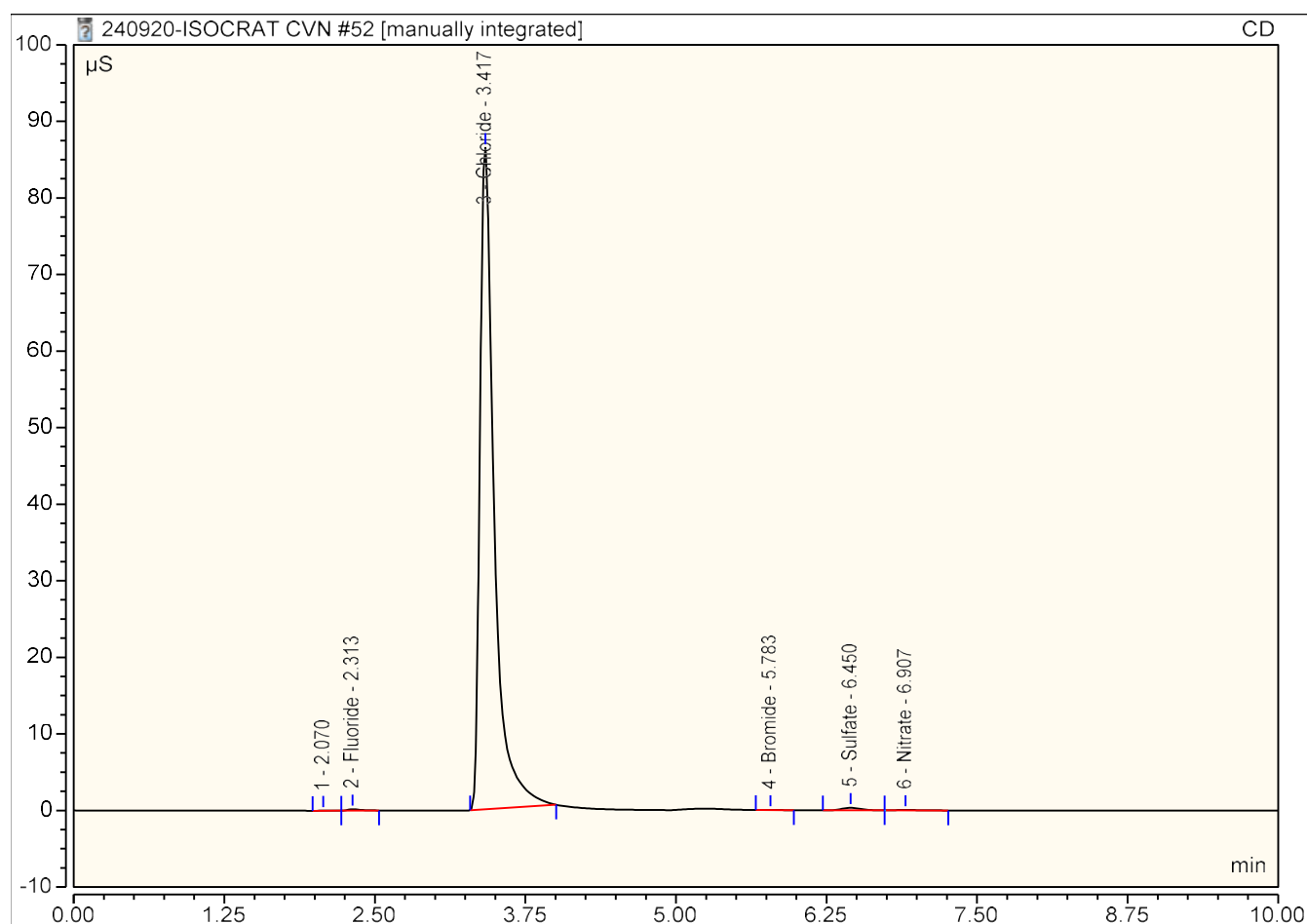
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.224	2.050	0.4528
3	3.39	Chloride	BMB*	108.508	737.907	265.1267
4	5.79	Bromide	BMB	0.043	0.282	0.3905
5	6.43	Sulfate	BM *	0.714	3.843	2.7463
6	6.90	Nitrate	MB*	0.187	0.910	0.1718
TOTAL:				109.68	744.99	268.89



Peak Integration Report

Sample Name:	L2453433-02; 10X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 17:55	Run Time:	10.00

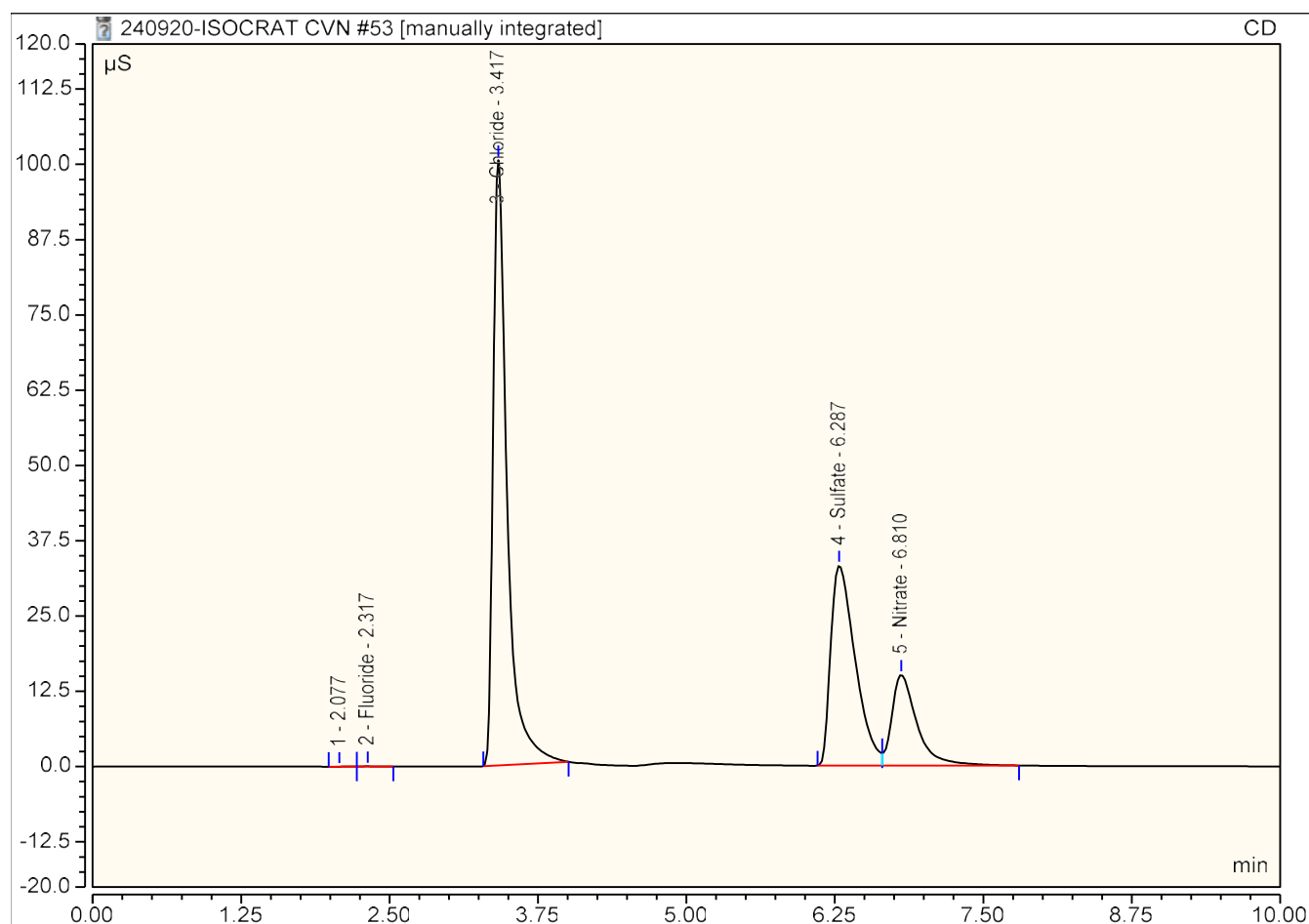
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.31	Fluoride	BMB	0.019	0.173	0.7966
3	3.42	Chloride	BMB*	11.918	86.372	293.0261
4	5.78	Bromide	BMB	0.003	0.021	0.5736
5	6.45	Sulfate	BM *	0.061	0.334	4.8835
6	6.91	Nitrate	MB*	0.015	0.074	0.3690
TOTAL:				12.02	86.97	299.65



Peak Integration Report

Sample Name:	L2453399-01 BR CL SO4	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 18:07	Run Time:	10.00

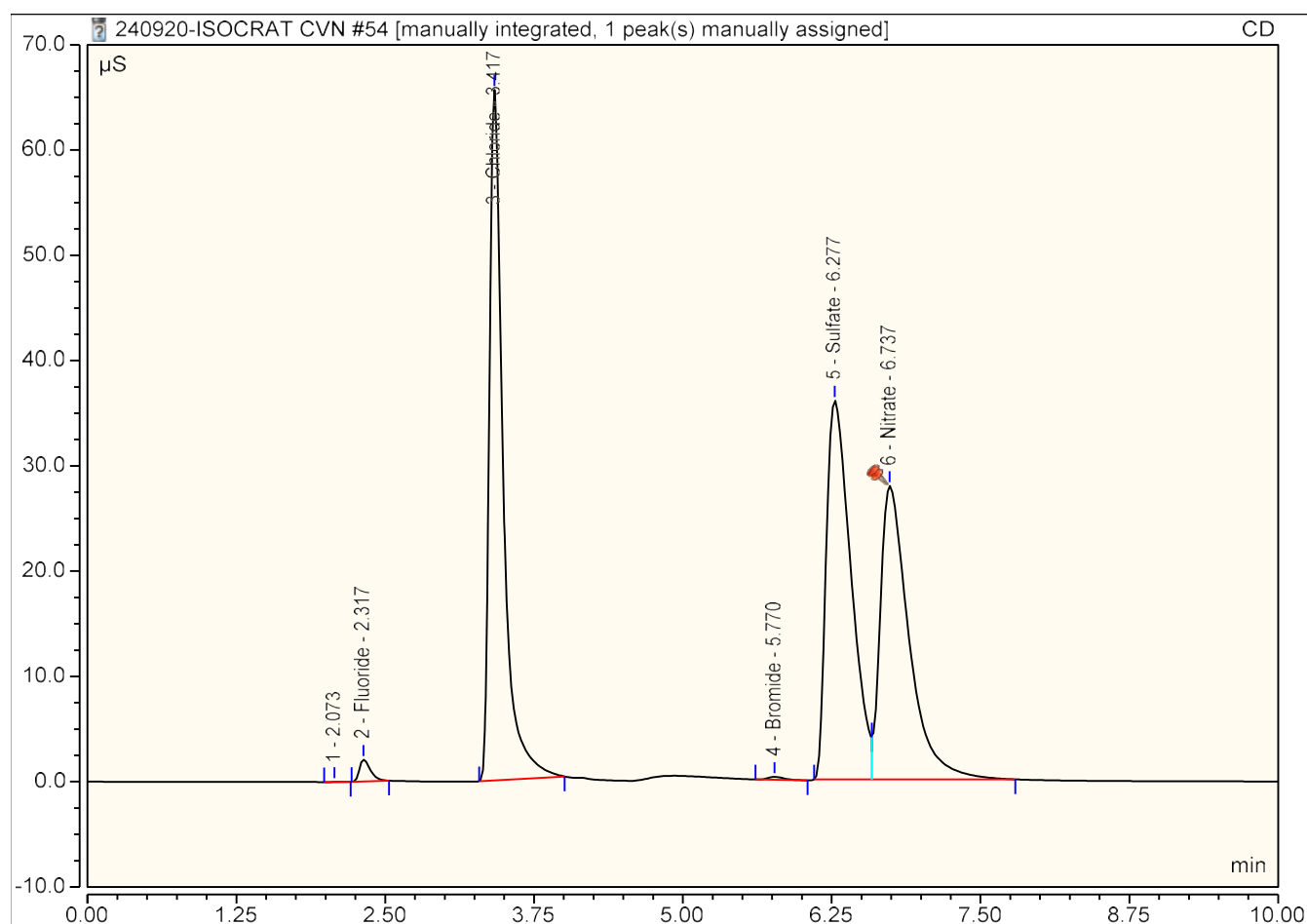
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.006	0.046	0.0549
3	3.42	Chloride	BMB*	13.683	100.494	33.6121
4	6.29	Sulfate	BM *	7.926	33.242	27.6803
5	6.81	Nitrate	MB*	3.683	15.054	2.9123
TOTAL:				25.30	148.84	64.26



Peak Integration Report

Sample Name:	L2453399-02 MS	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 18:19	Run Time:	10.00

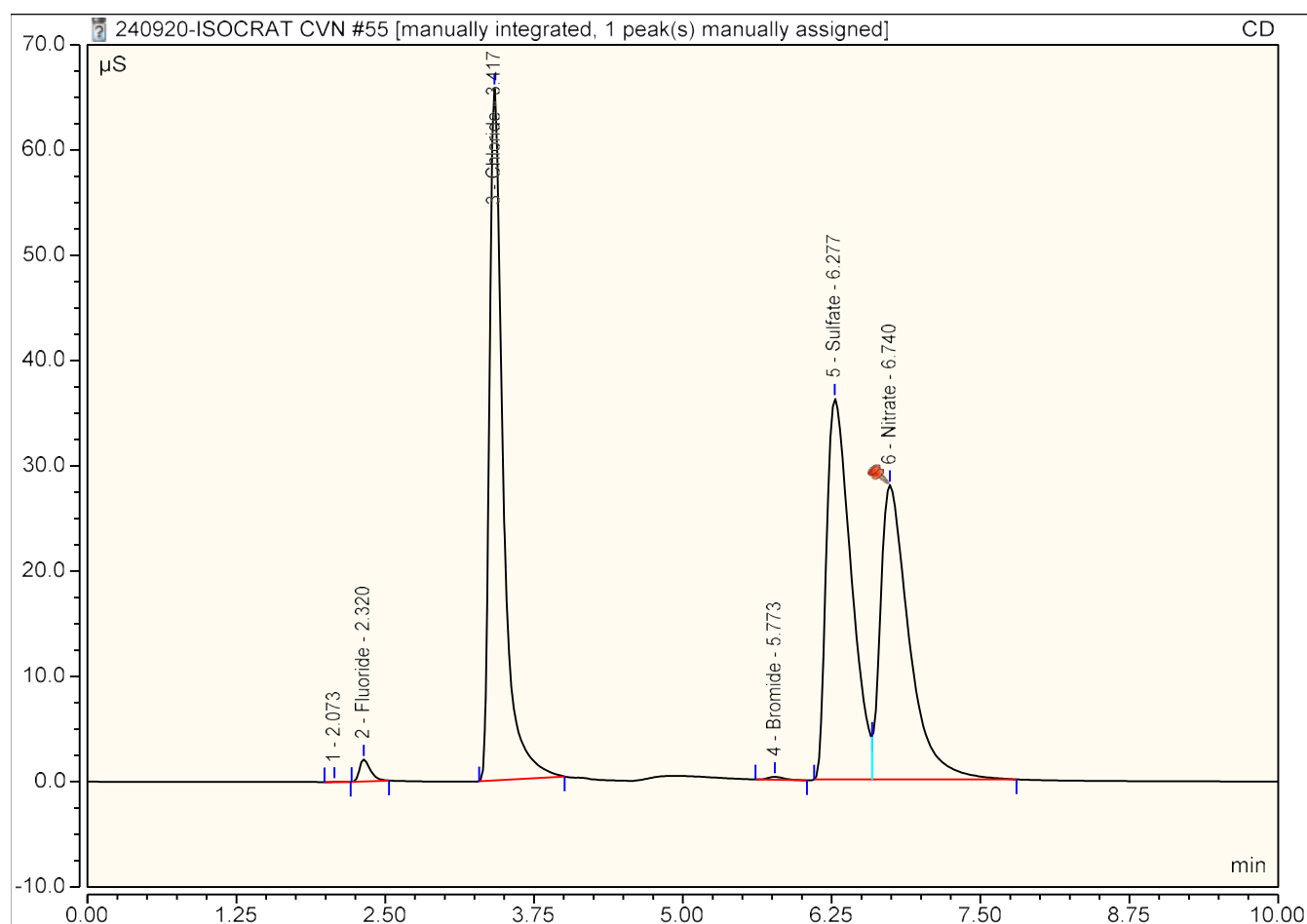
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.221	2.073	0.4479
3	3.42	Chloride	BMB*	8.815	65.607	21.7286
4	5.77	Bromide	BMB	0.043	0.284	0.3877
5	6.28	Sulfate	BM *	8.645	35.976	30.1670
6	6.74	Nitrate	MB*^	7.768	27.876	6.1144
TOTAL:				25.49	131.82	58.85



Peak Integration Report

Sample Name:	L2453399-02 MSD	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 18:31	Run Time:	10.00

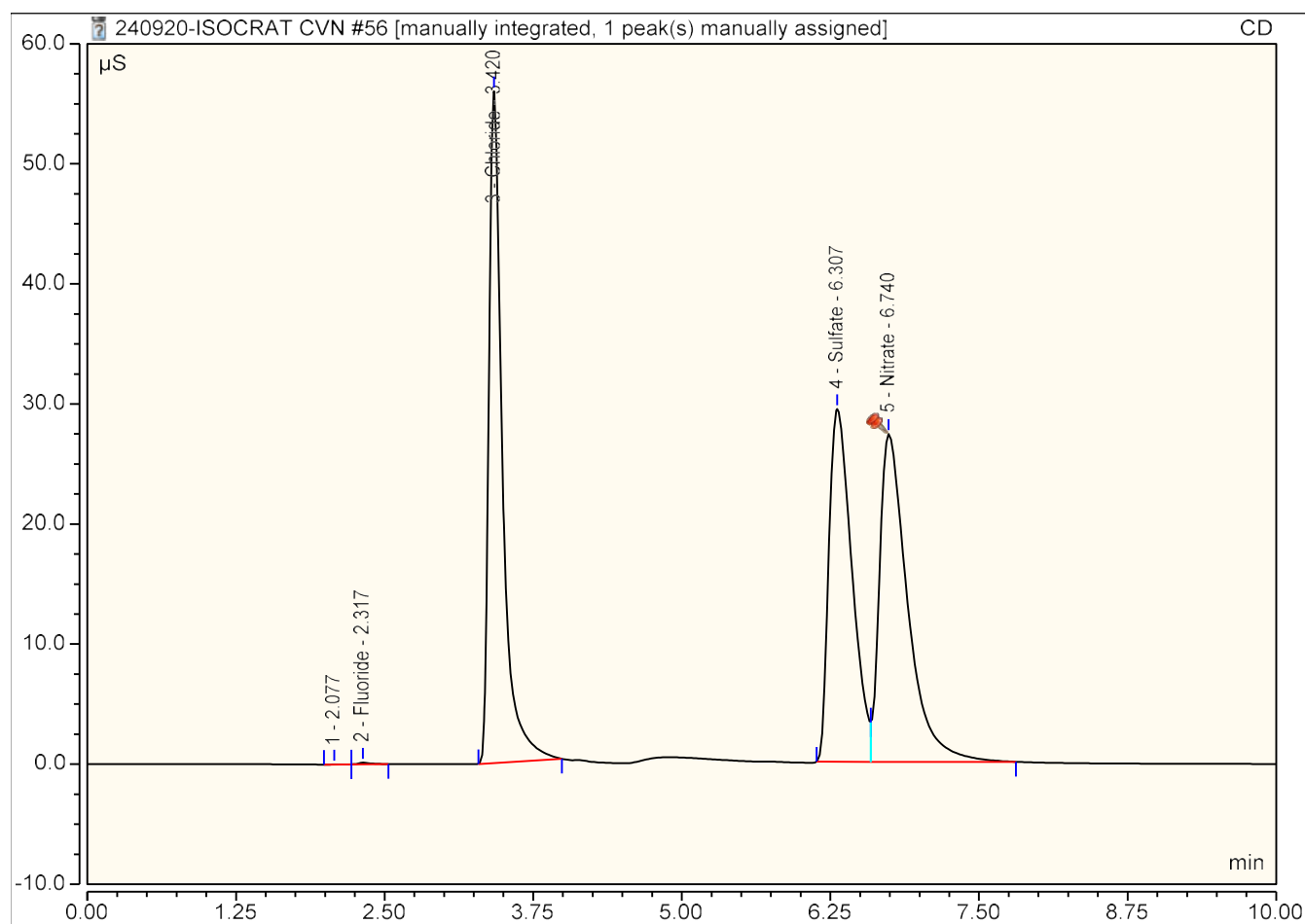
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.221	2.077	0.4483
3	3.42	Chloride	BMB*	8.828	65.749	21.7584
4	5.77	Bromide	BMB	0.043	0.286	0.3881
5	6.28	Sulfate	BM *	8.677	36.174	30.2764
6	6.74	Nitrate	MB*^	7.784	27.959	6.1270
TOTAL:				25.55	132.25	59.00



Peak Integration Report

Sample Name:	L2453399-02	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 18:43	Run Time:	10.00

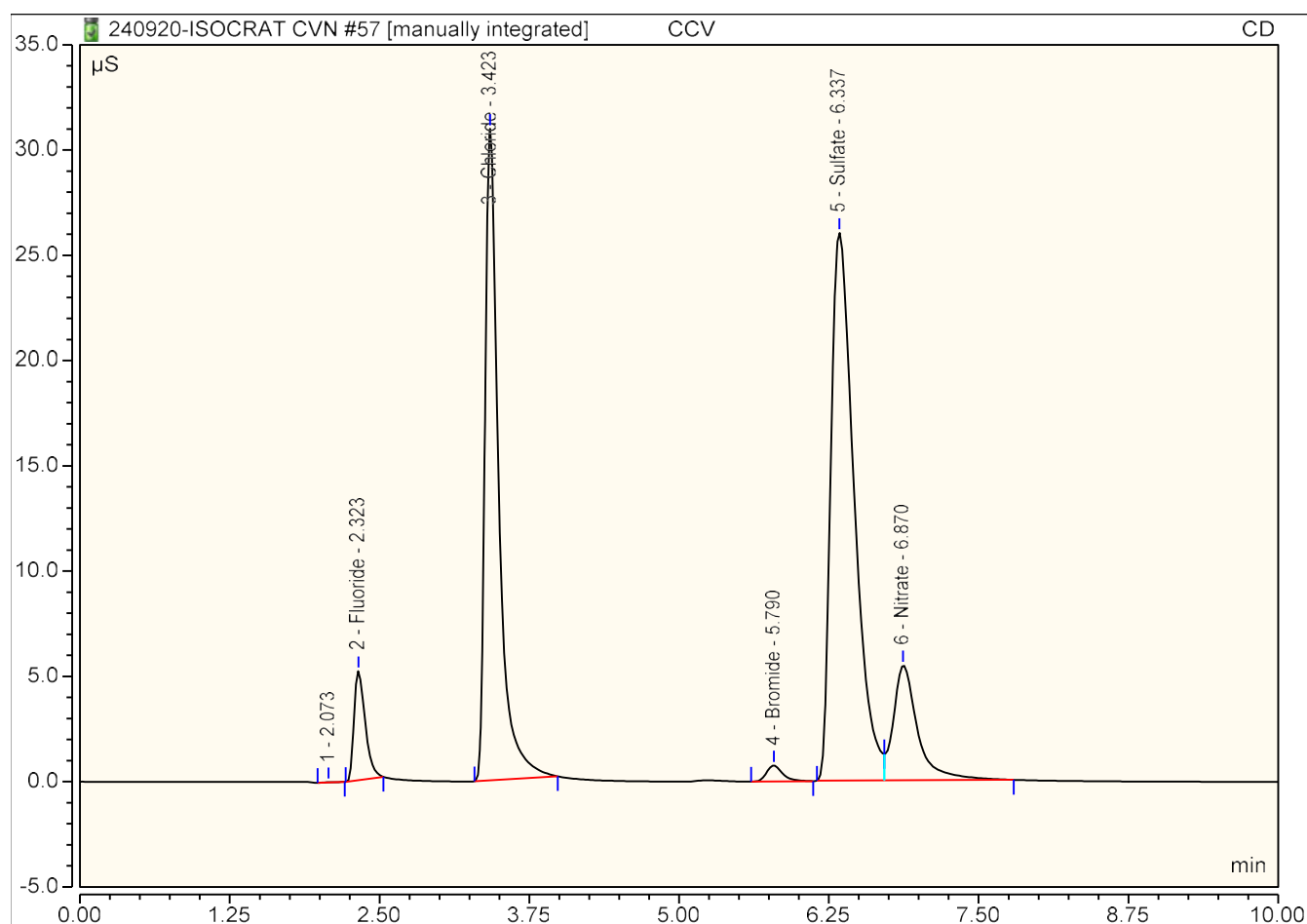
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.016	0.139	0.0734
3	3.42	Chloride	BMB*	7.422	55.950	18.3268
4	6.31	Sulfate	BM *	6.578	29.389	23.0202
5	6.74	Nitrate	MB^A	7.480	27.315	5.8884
TOTAL:				21.50	112.79	47.31



Peak Integration Report

Sample Name:	CCV	Inj. Vol.:	25.00
Injection Type:	Check Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 18:55	Run Time:	10.00

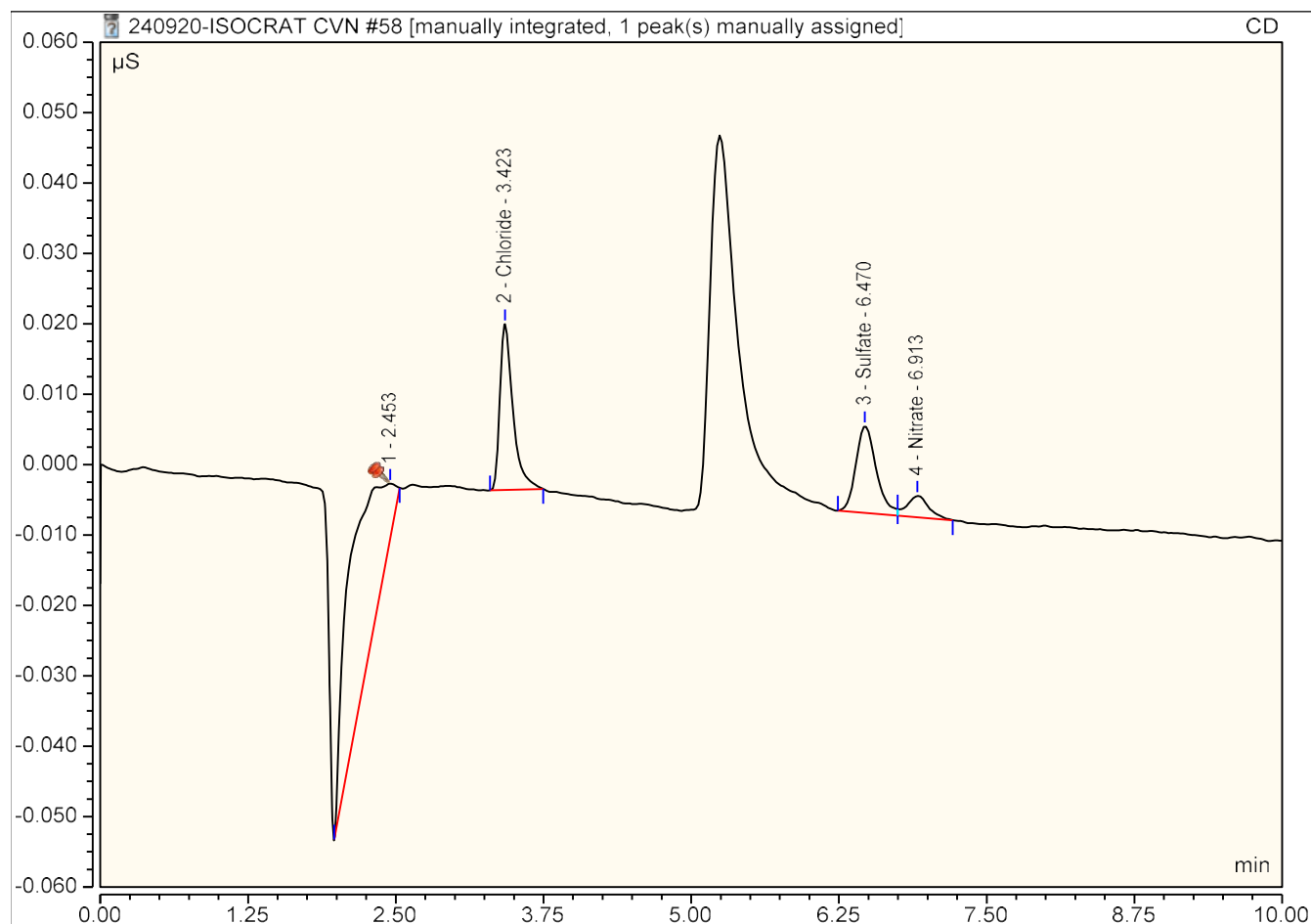
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.560	5.182	1.0653
3	3.42	Chloride	BMB*	4.098	30.943	10.2101
4	5.79	Bromide	BMB	0.118	0.758	1.0106
5	6.34	Sulfate	BM *	5.864	26.006	20.5503
6	6.87	Nitrate	MB*	1.284	5.458	1.0315
TOTAL:				11.92	68.35	33.87



Peak Integration Report

Sample Name:	CCB	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 19:07	Run Time:	10.00

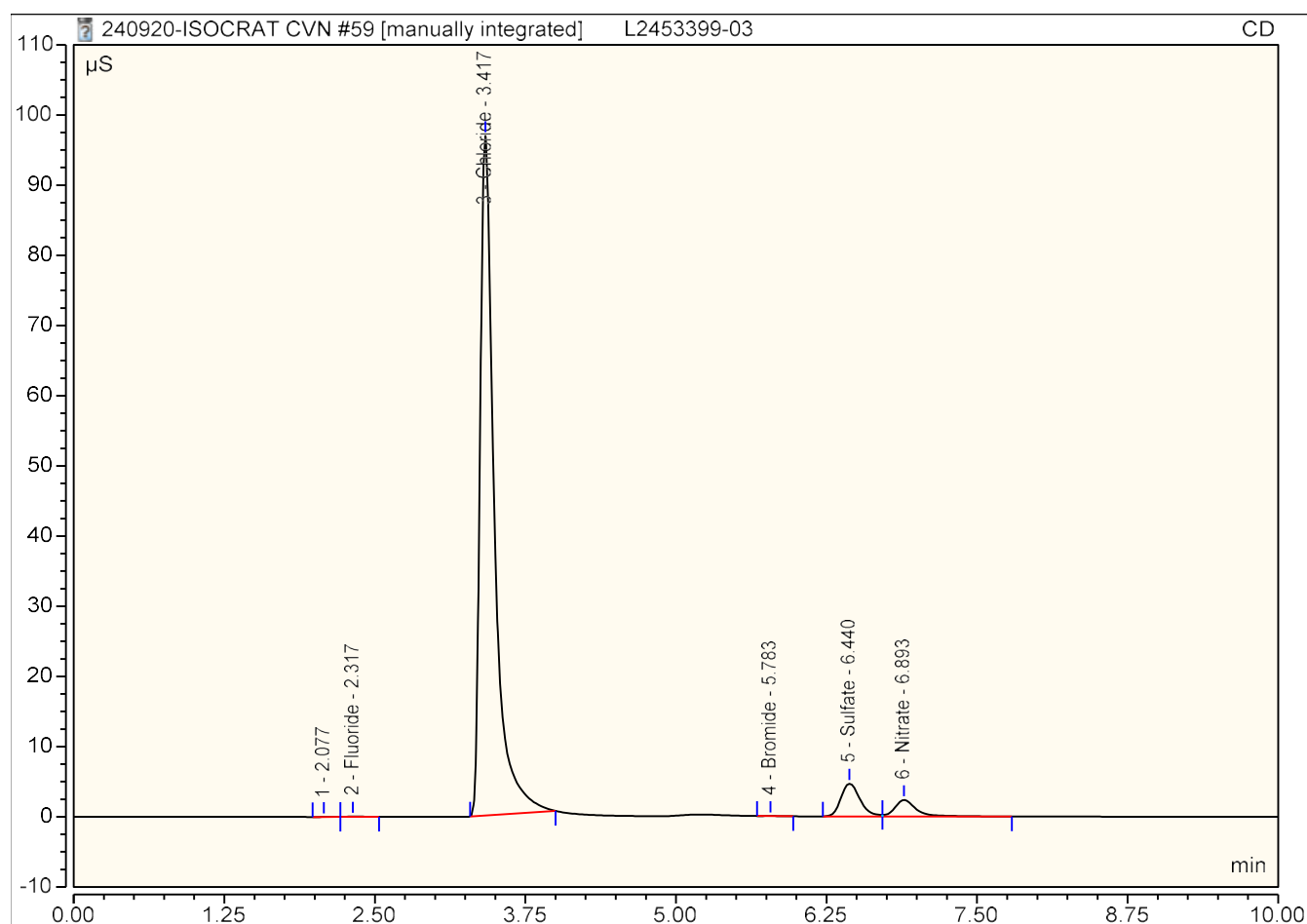
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	3.42	Chloride	BMB	0.003	0.024	0.2130
3	6.47	Sulfate	BM *	0.002	0.012	0.2851
4	6.91	Nitrate	MB*	0.001	0.003	0.0257
TOTAL:				0.01	0.04	0.52



Peak Integration Report

Sample Name:	L2453399-03	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 19:19	Run Time:	10.00

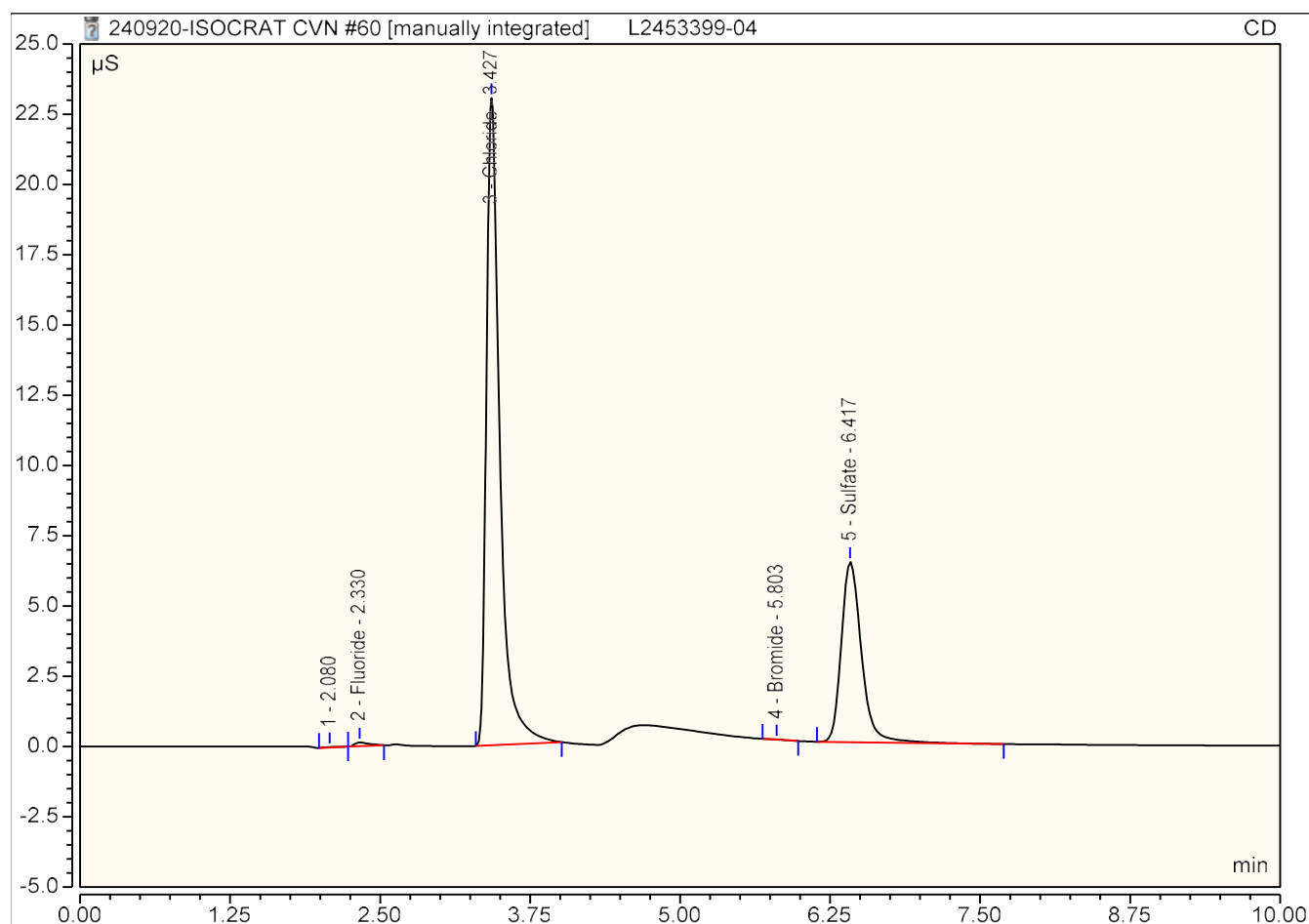
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.007	0.057	0.0568
3	3.42	Chloride	BMB*	13.297	96.819	32.6692
4	5.78	Bromide	BMB	0.003	0.021	0.0570
5	6.44	Sulfate	BM *	0.858	4.676	3.2417
6	6.89	Nitrate	MB*	0.485	2.347	0.4055
TOTAL:				14.65	103.92	36.43



Peak Integration Report

Sample Name:	L2453399-04	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 19:32	Run Time:	10.00

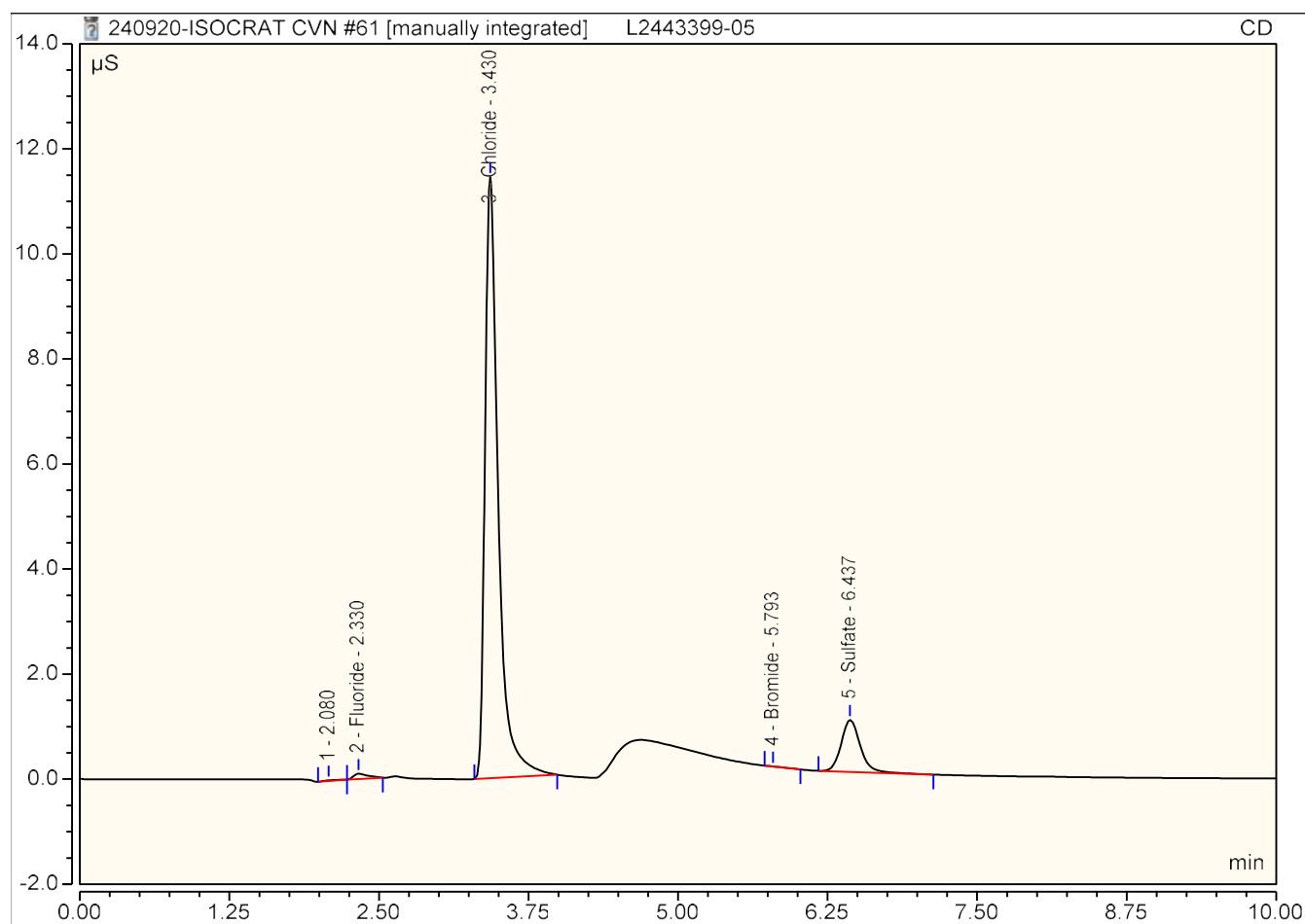
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.33	Fluoride	BMB	0.018	0.134	0.0781
3	3.43	Chloride	BMB*	2.995	23.032	7.5167
4	5.80	Bromide	BMB	0.001	0.008	0.0415
5	6.42	Sulfate	BMB	1.249	6.414	4.5938
TOTAL:				4.26	29.59	12.23



Peak Integration Report

Sample Name:	L2443399-05	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 19:44	Run Time:	10.00

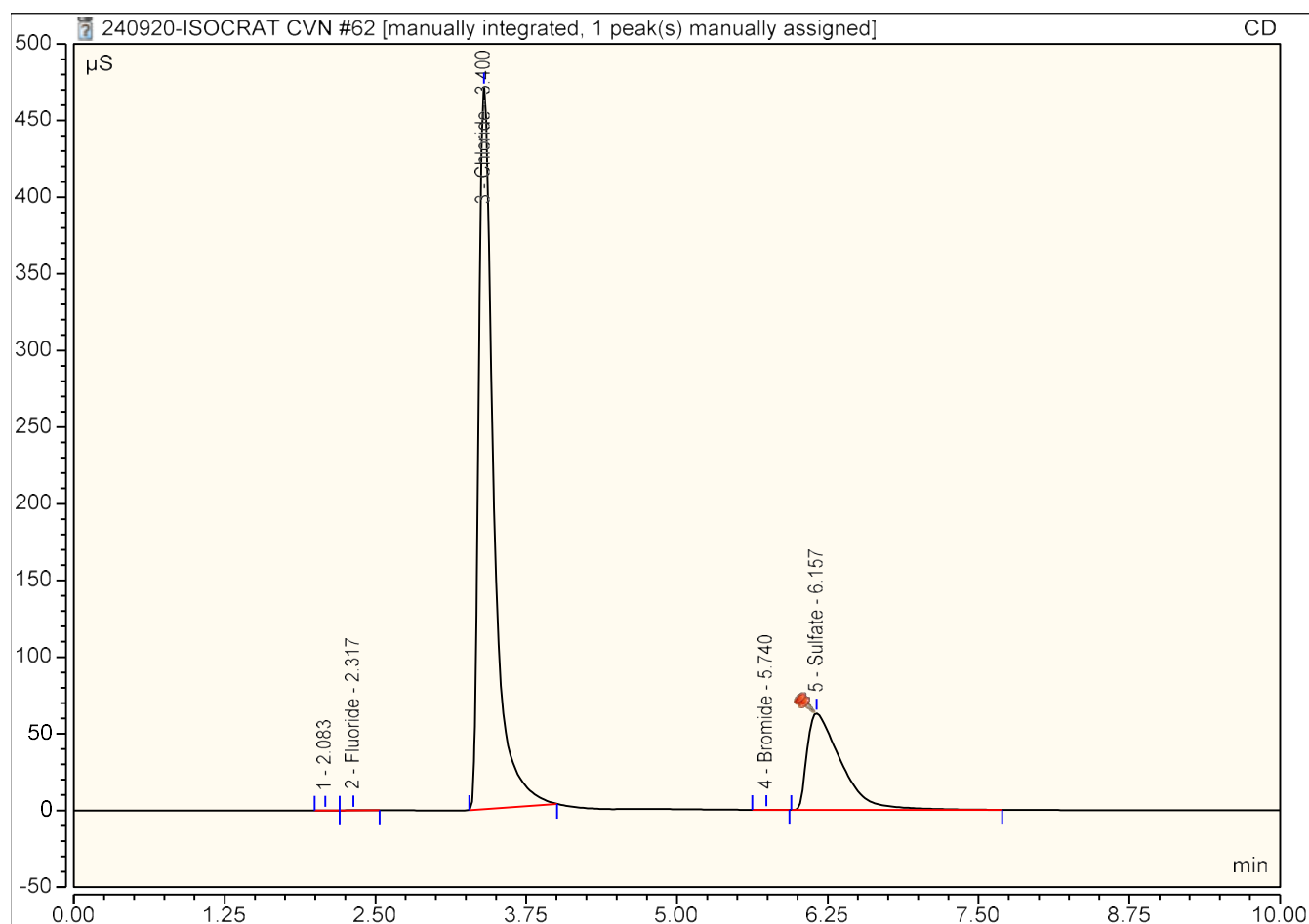
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.33	Fluoride	BMB	0.014	0.101	0.0701
3	3.43	Chloride	BMB*	1.466	11.449	3.7859
4	5.79	Bromide	BMB	0.000	0.002	0.0351
5	6.44	Sulfate	BMB	0.184	0.992	0.9136
TOTAL:				1.67	12.54	4.80



Peak Integration Report

Sample Name:	L2453400-01 BR CL SO4	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 19:56	Run Time:	10.00

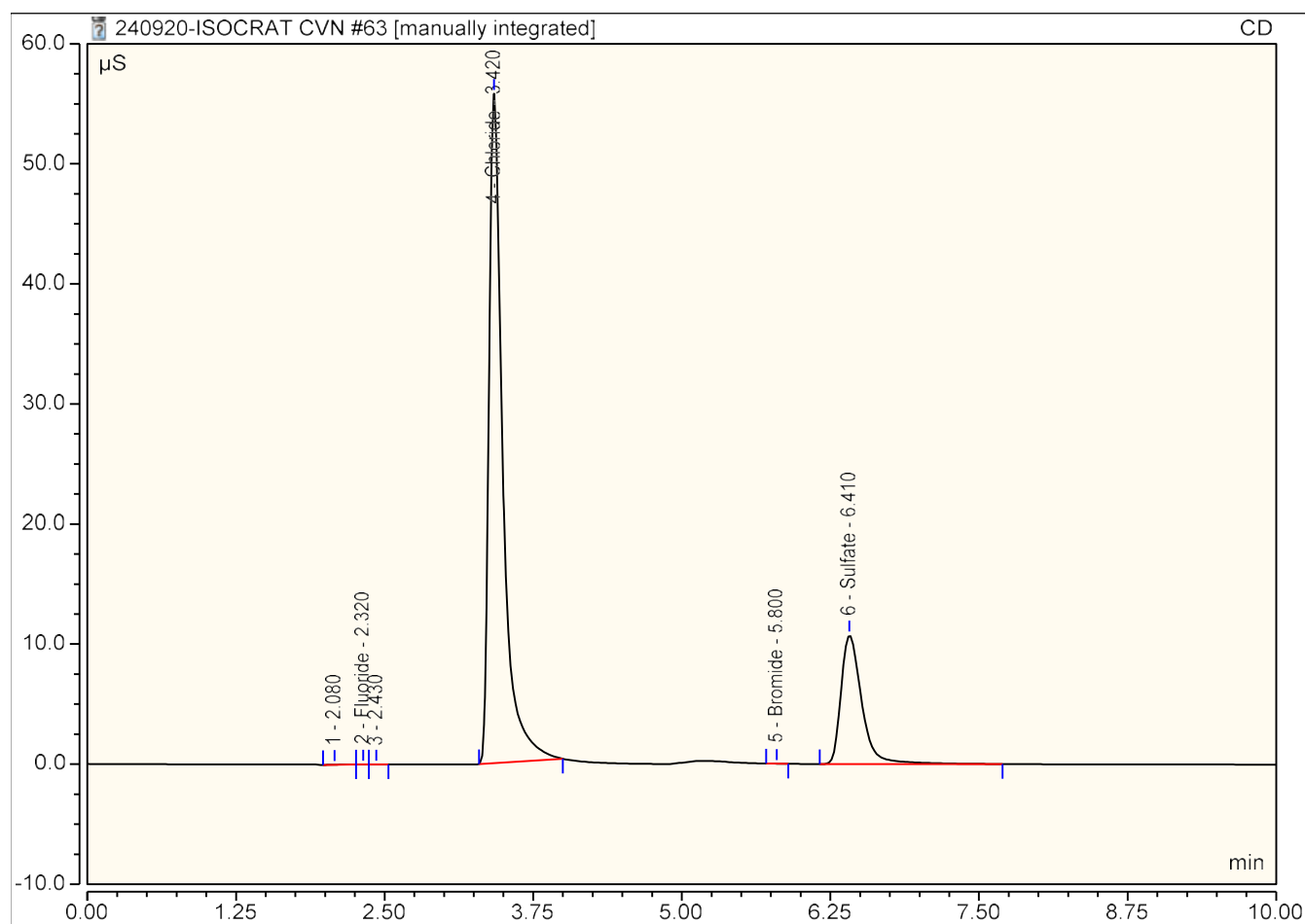
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.006	0.047	0.0557
3	3.40	Chloride	BMB*	68.308	470.745	166.9800
4	5.74	Bromide	BMB	0.006	0.040	0.0832
5	6.16	Sulfate	BMB^	20.488	63.042	71.1172
TOTAL:				88.81	533.87	238.24



Peak Integration Report

Sample Name:	L2453400-01; 10X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 20:08	Run Time:	10.00

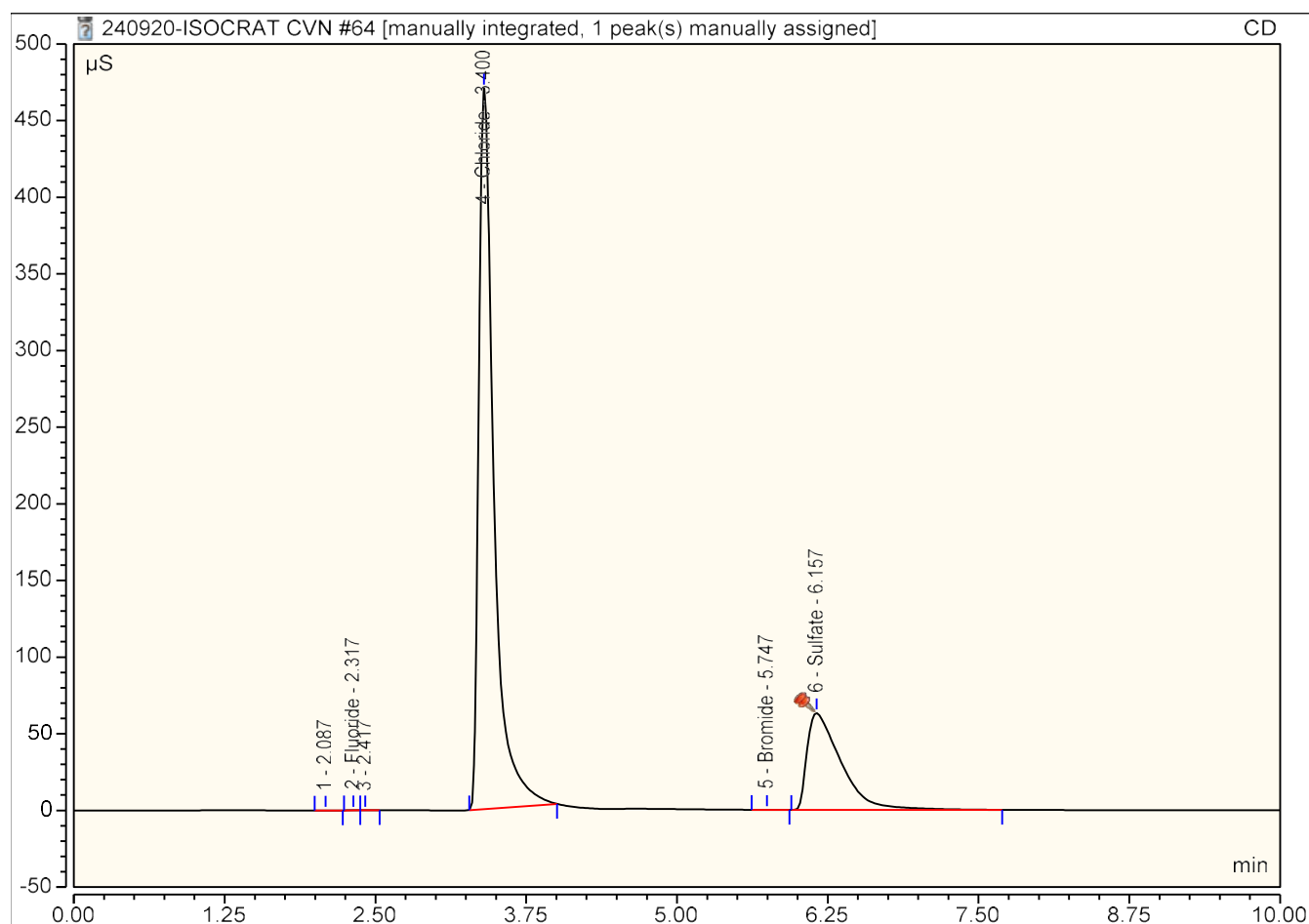
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.000	0.003	0.4480
4	3.42	Chloride	BMB*	7.548	55.754	186.3504
5	5.80	Bromide	BMB	0.000	0.002	0.3429
6	6.41	Sulfate	BMB	2.176	10.732	78.0160
TOTAL:				9.73	66.49	265.16



Peak Integration Report

Sample Name:	L2453400-02	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 20:20	Run Time:	10.00

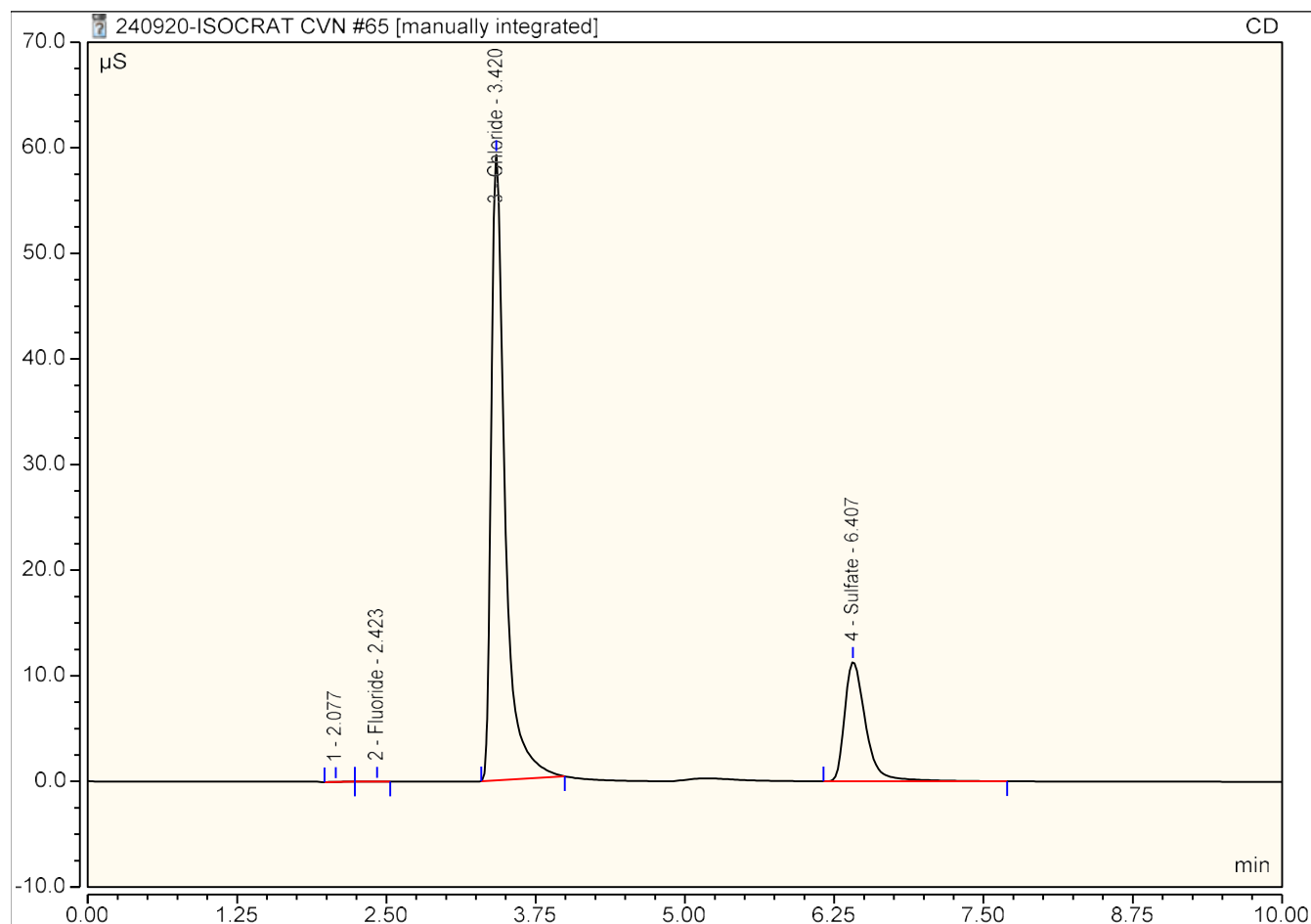
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.002	0.025	0.0476
4	3.40	Chloride	BMB*	68.412	470.091	167.2335
5	5.75	Bromide	BMB	0.006	0.044	0.0853
6	6.16	Sulfate	BMB^	20.511	63.098	71.1954
TOTAL:				88.93	533.26	238.56



Peak Integration Report

Sample Name:	L2453400-02; 10X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 20:32	Run Time:	10.00

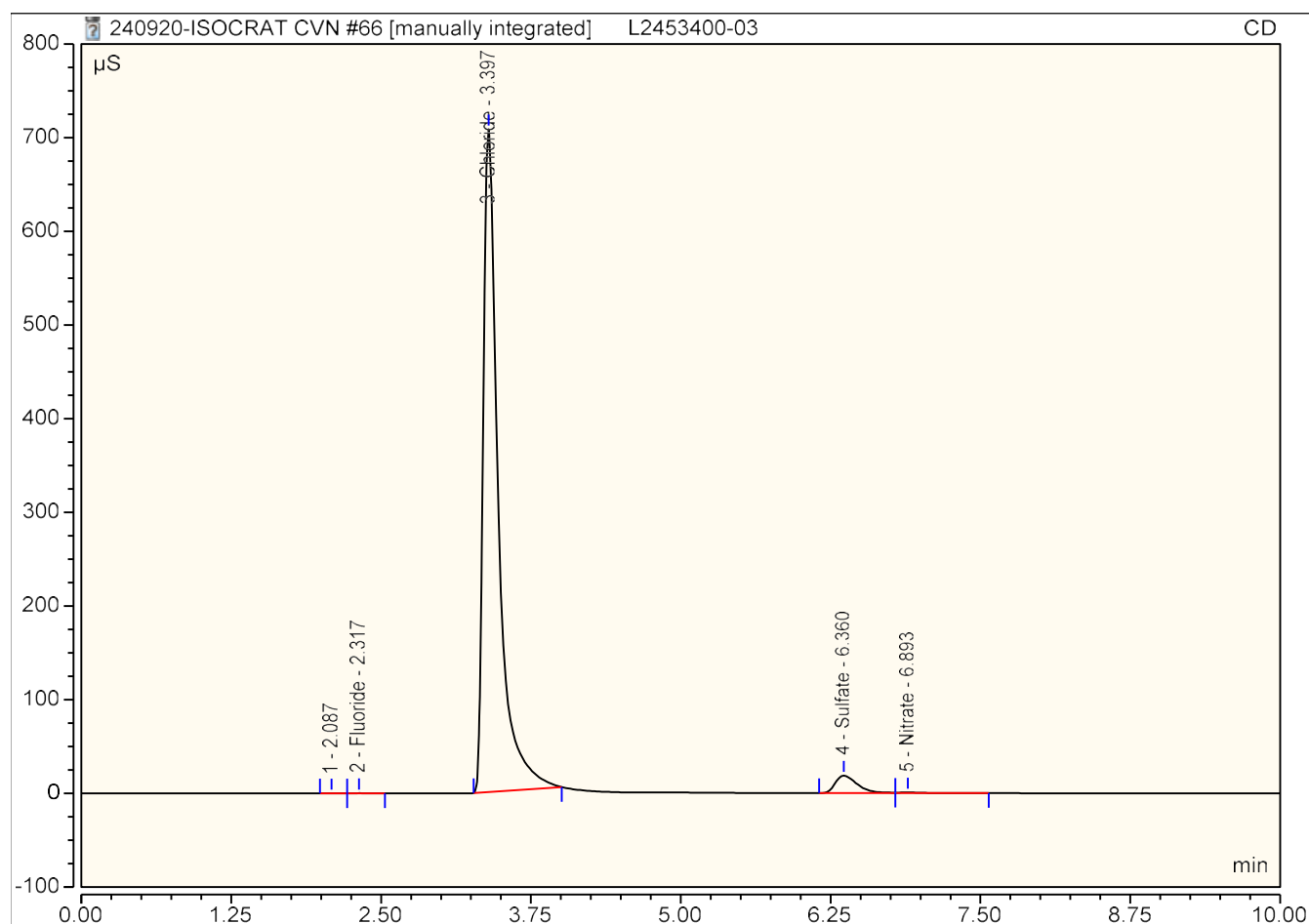
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.42	Fluoride	BMB	0.001	0.007	0.4686
3	3.42	Chloride	BMB*	7.990	59.233	197.1201
4	6.41	Sulfate	BMB	2.315	11.317	82.8044
TOTAL:				10.31	70.56	280.39



Peak Integration Report

Sample Name:	L2453400-03	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 20:44	Run Time:	10.00

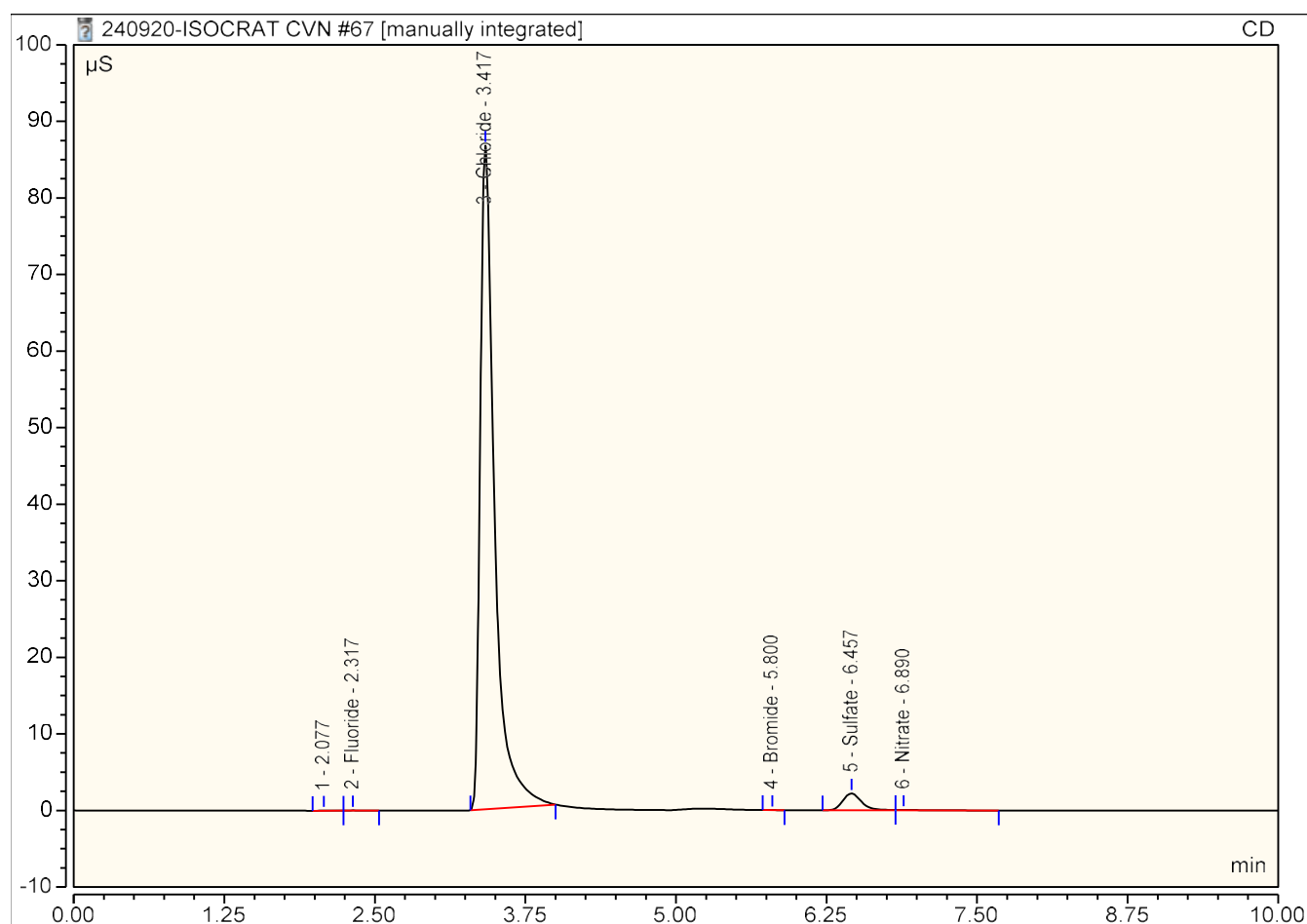
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.019	0.155	0.0786
3	3.40	Chloride	BMB*	103.213	707.614	252.1996
4	6.36	Sulfate	BM *	4.005	18.732	14.1225
5	6.89	Nitrate	MB*	0.182	0.676	0.1680
TOTAL:				107.42	727.18	266.57



Peak Integration Report

Sample Name:	L2453400-03; 10X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 20:56	Run Time:	10.00

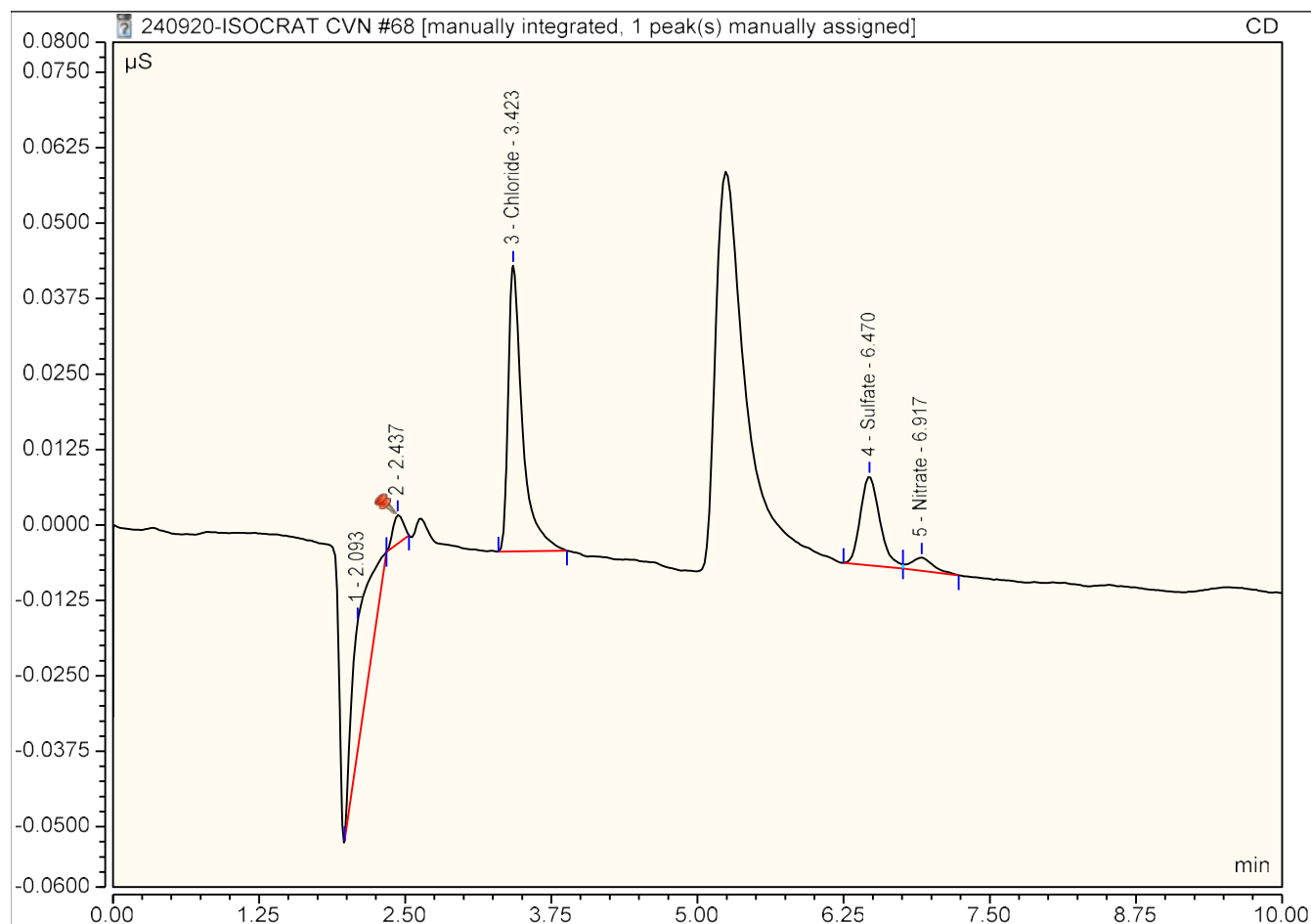
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.002	0.018	0.4895
3	3.42	Chloride	BMB*	11.991	86.662	294.8066
4	5.80	Bromide	BMB	0.000	0.001	0.3369
5	6.46	Sulfate	BM *	0.406	2.200	16.8185
6	6.89	Nitrate	MB*	0.018	0.070	0.3969
TOTAL:				12.42	88.95	312.85



Peak Integration Report

Sample Name:	L2453400-04	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 21:08	Run Time:	10.00

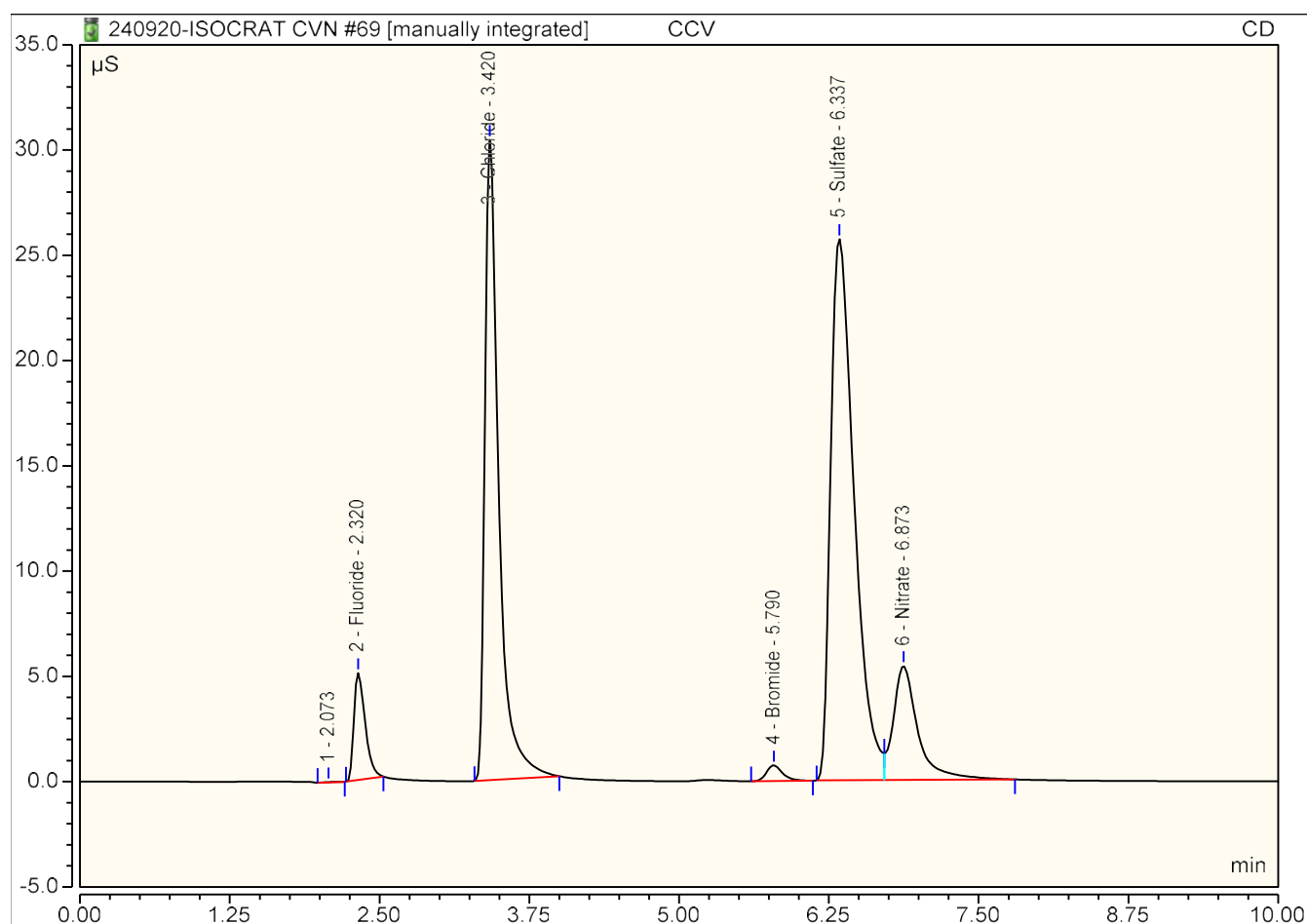
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
3	3.42	Chloride	BMB*	0.007	0.047	0.2219
4	6.47	Sulfate	BM *	0.003	0.015	0.2863
5	6.92	Nitrate	MB*	0.000	0.002	0.0256
TOTAL:				0.01	0.06	0.53



Peak Integration Report

Sample Name:	CCV	Inj. Vol.:	25.00
Injection Type:	Check Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 21:20	Run Time:	10.00

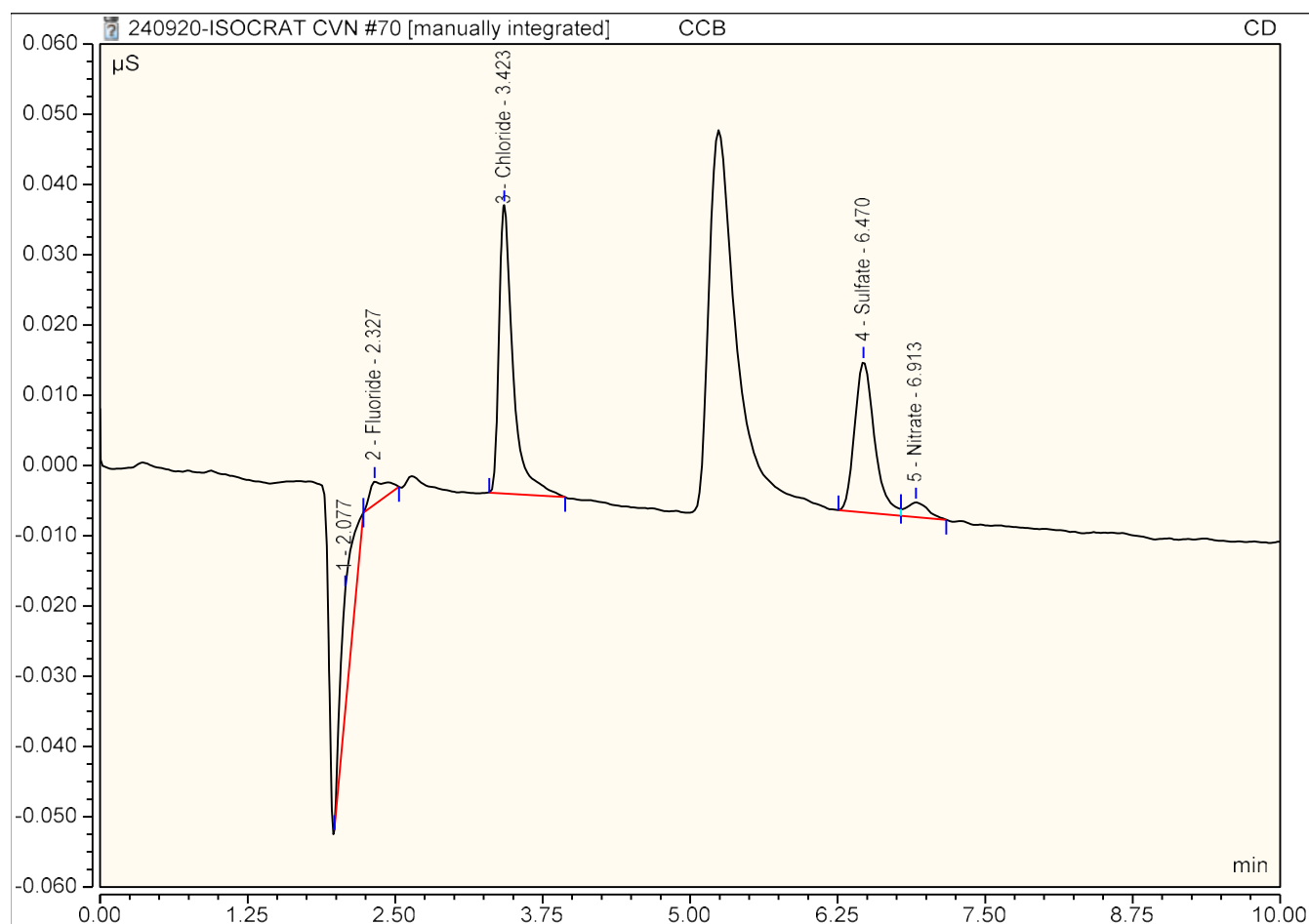
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.553	5.089	1.0532
3	3.42	Chloride	BMB*	4.092	30.415	10.1966
4	5.79	Bromide	BMB	0.117	0.747	1.0030
5	6.34	Sulfate	BM *	5.825	25.703	20.4166
6	6.87	Nitrate	MB*	1.287	5.415	1.0340
TOTAL:				11.87	67.37	33.70



Peak Integration Report

Sample Name:	CCB	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 21:32	Run Time:	10.00

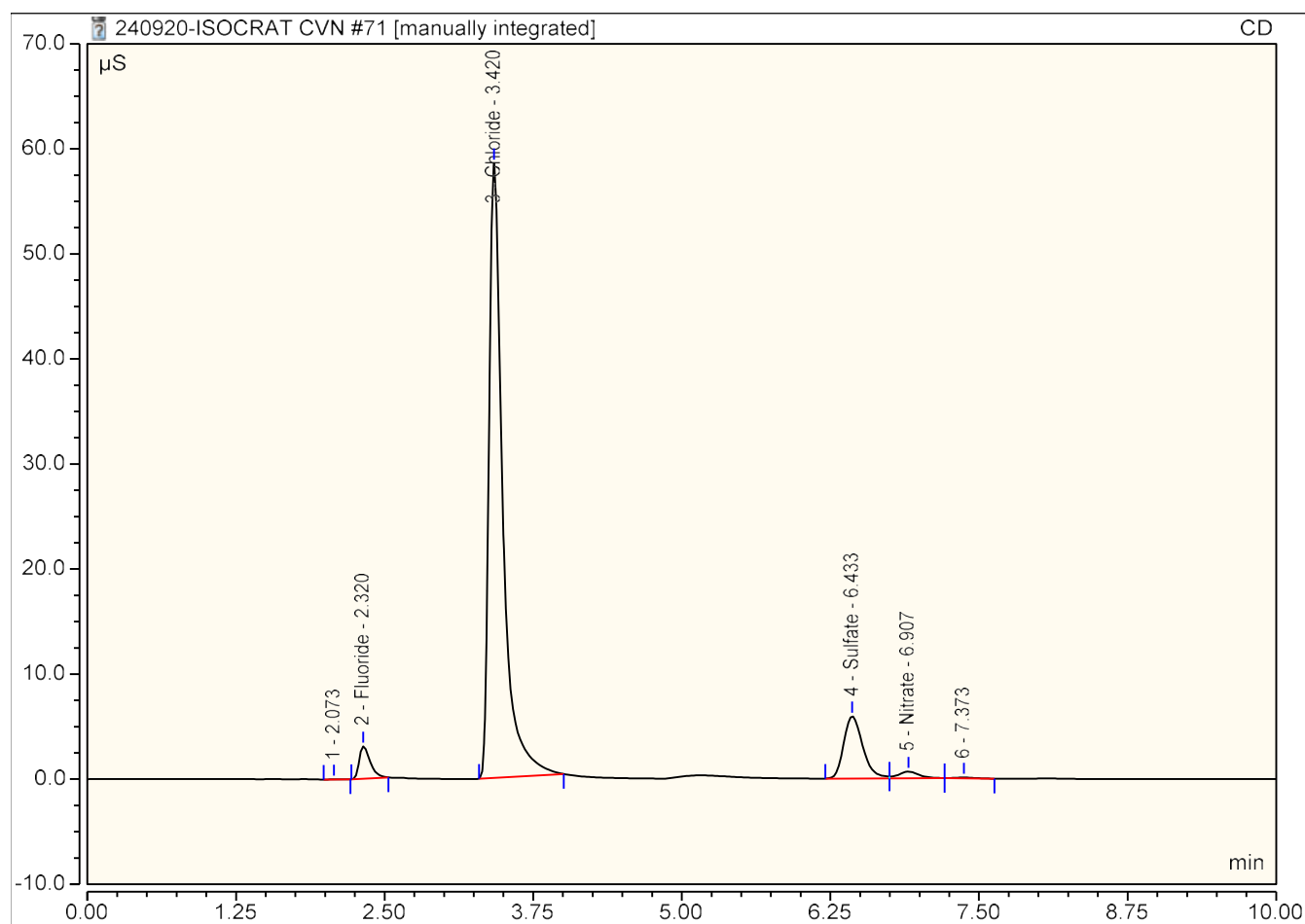
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.33	Fluoride	BMB	0.001	0.003	0.0454
3	3.42	Chloride	BMB*	0.006	0.041	0.2193
4	6.47	Sulfate	BM *	0.004	0.021	0.2910
5	6.91	Nitrate	MB*	0.000	0.002	0.0256
TOTAL:				0.01	0.07	0.58



Peak Integration Report

Sample Name:	L2453383-01 CL SO4	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 21:45	Run Time:	10.00

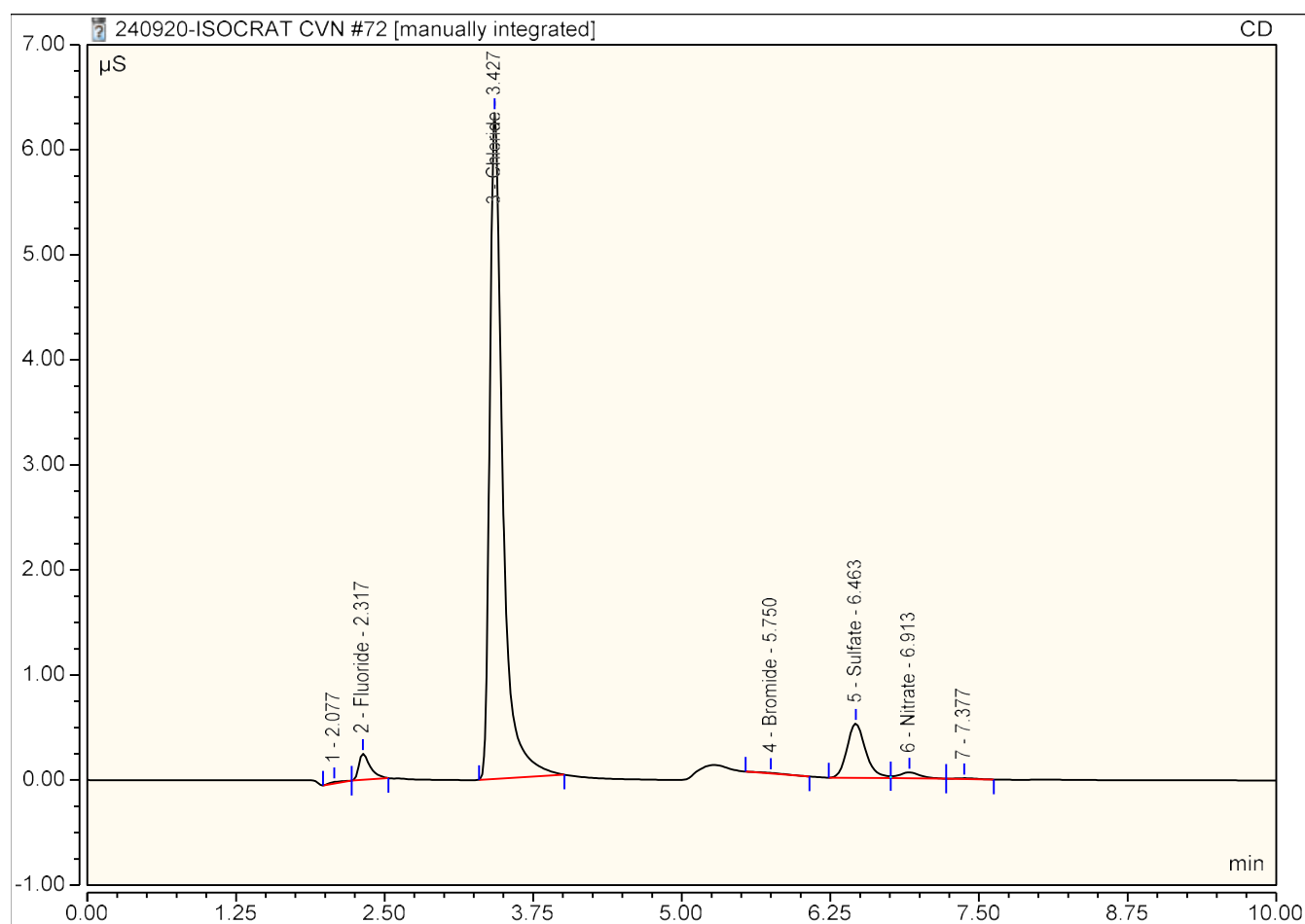
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.329	3.080	0.6438
3	3.42	Chloride	BMB*	7.882	58.511	19.4495
4	6.43	Sulfate	BM *	1.099	5.918	4.0775
5	6.91	Nitrate	Mb*	0.124	0.630	0.1223
TOTAL:				9.43	68.14	24.29



Peak Integration Report

Sample Name:	XL2453383-01; 10X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 21:57	Run Time:	10.00

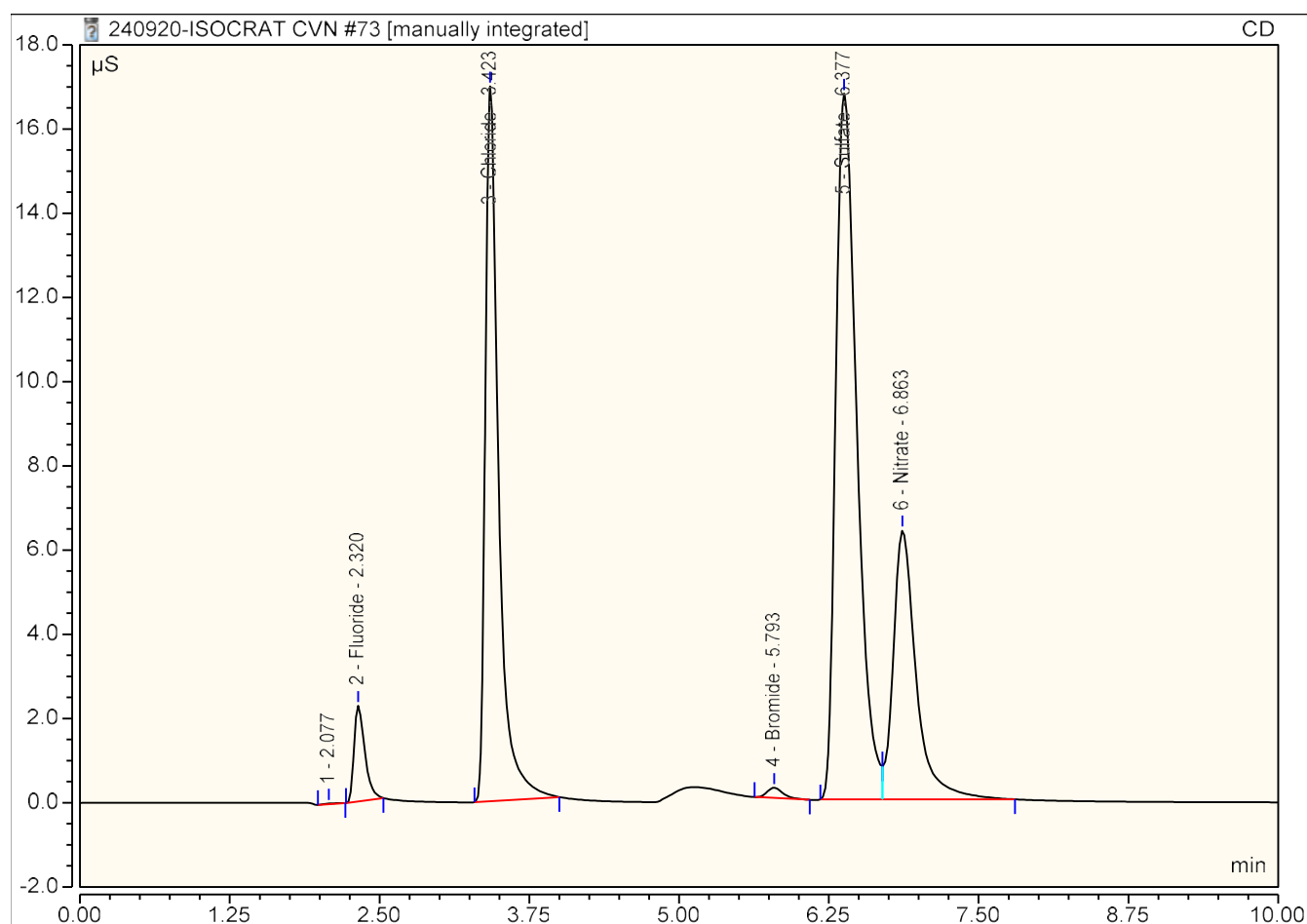
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.028	0.249	0.9496
3	3.43	Chloride	BMB*	0.806	6.339	21.7379
4	5.75	Bromide	BMB	0.002	0.006	0.4692
5	6.46	Sulfate	BM *	0.094	0.517	6.0025
6	6.91	Nitrate	Mb*	0.011	0.056	0.3414
TOTAL:				0.94	7.17	29.50



Peak Integration Report

Sample Name:	L2453058-01 MS	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 22:09	Run Time:	10.00

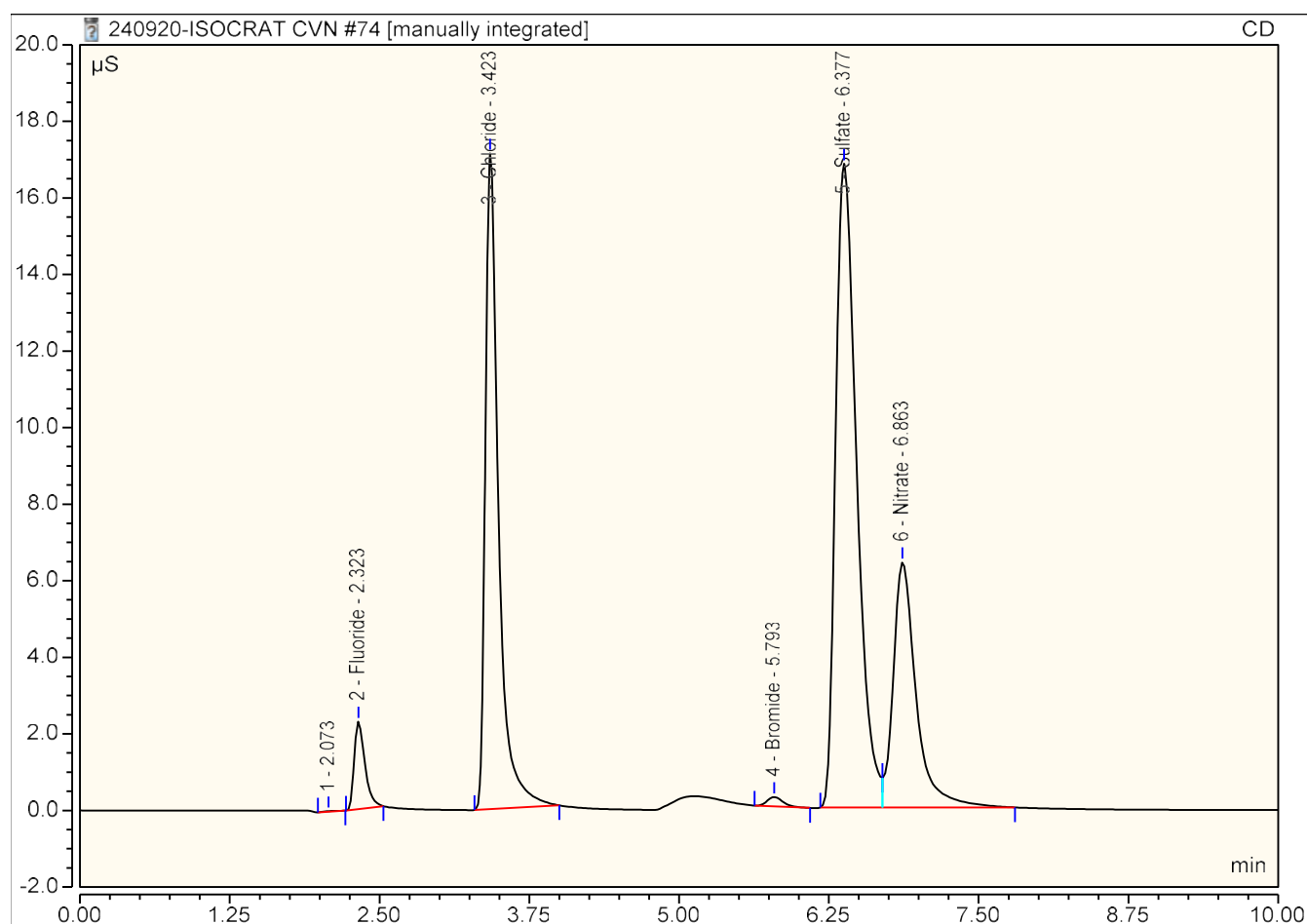
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.236	2.270	0.4755
3	3.42	Chloride	BMB*	2.186	16.977	5.5435
4	5.79	Bromide	BMB	0.037	0.245	0.3412
5	6.38	Sulfate	BM *	3.416	16.758	12.0874
6	6.86	Nitrate	MB*	1.421	6.391	1.1389
TOTAL:				7.30	42.64	19.59



Peak Integration Report

Sample Name:	L2453058-01 MSD	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 22:21	Run Time:	10.00

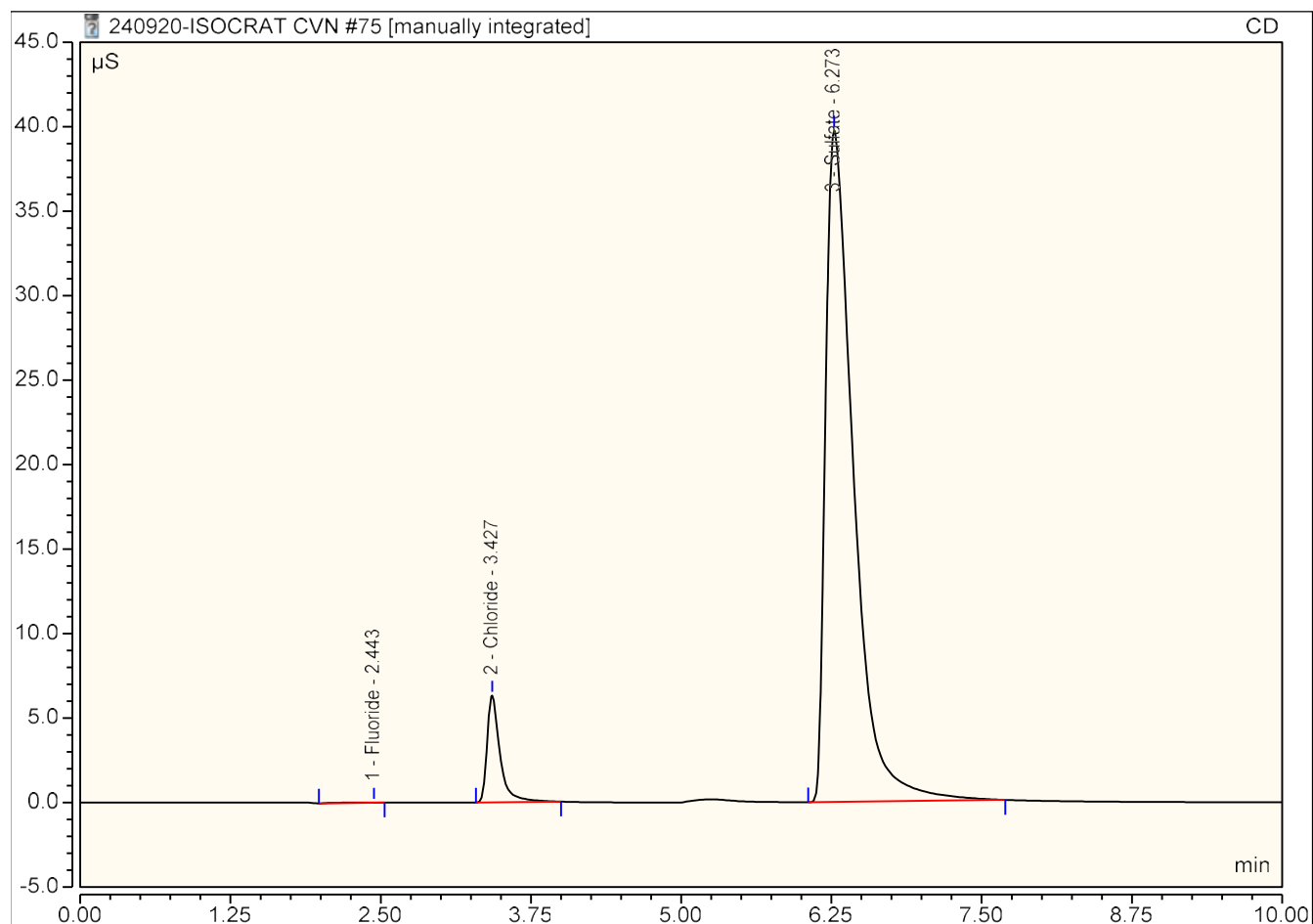
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.237	2.290	0.4772
3	3.42	Chloride	BMB*	2.191	17.128	5.5545
4	5.79	Bromide	BMB	0.037	0.245	0.3401
5	6.38	Sulfate	BM *	3.416	16.812	12.0877
6	6.86	Nitrate	MB*	1.421	6.407	1.1390
TOTAL:				7.30	42.88	19.60



Peak Integration Report

Sample Name:	L2453985-02; 25X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	25.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 22:33	Run Time:	10.00

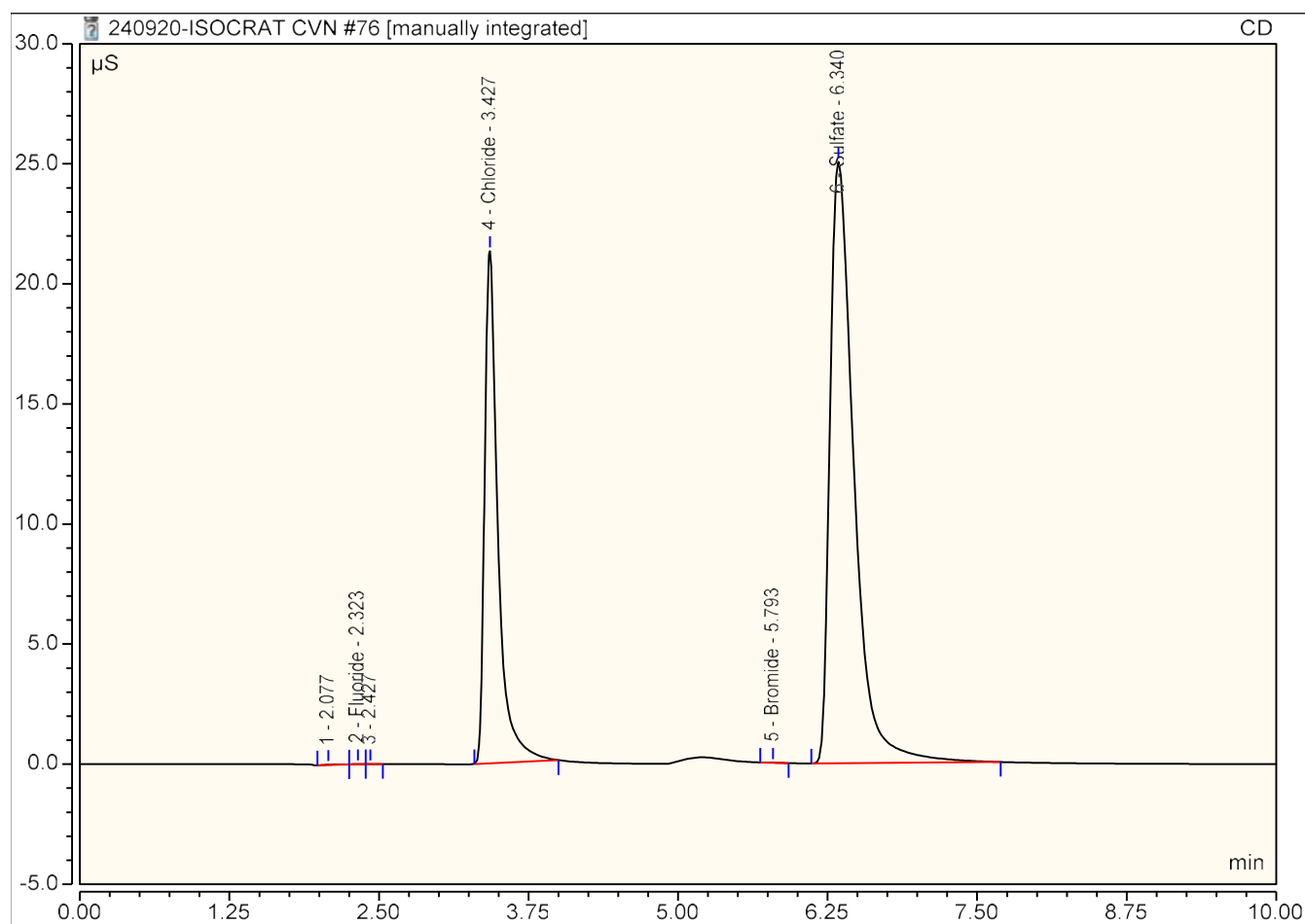
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
1	2.44	Fluoride	BMB	0.009	0.014	1.5411
2	3.43	Chloride	BMB*	0.791	6.321	53.4003
3	6.27	Sulfate	BMB	10.692	39.734	931.1507
TOTAL:				11.49	46.07	986.09



Peak Integration Report

Sample Name:	L2453985-01; 10X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 22:45	Run Time:	10.00

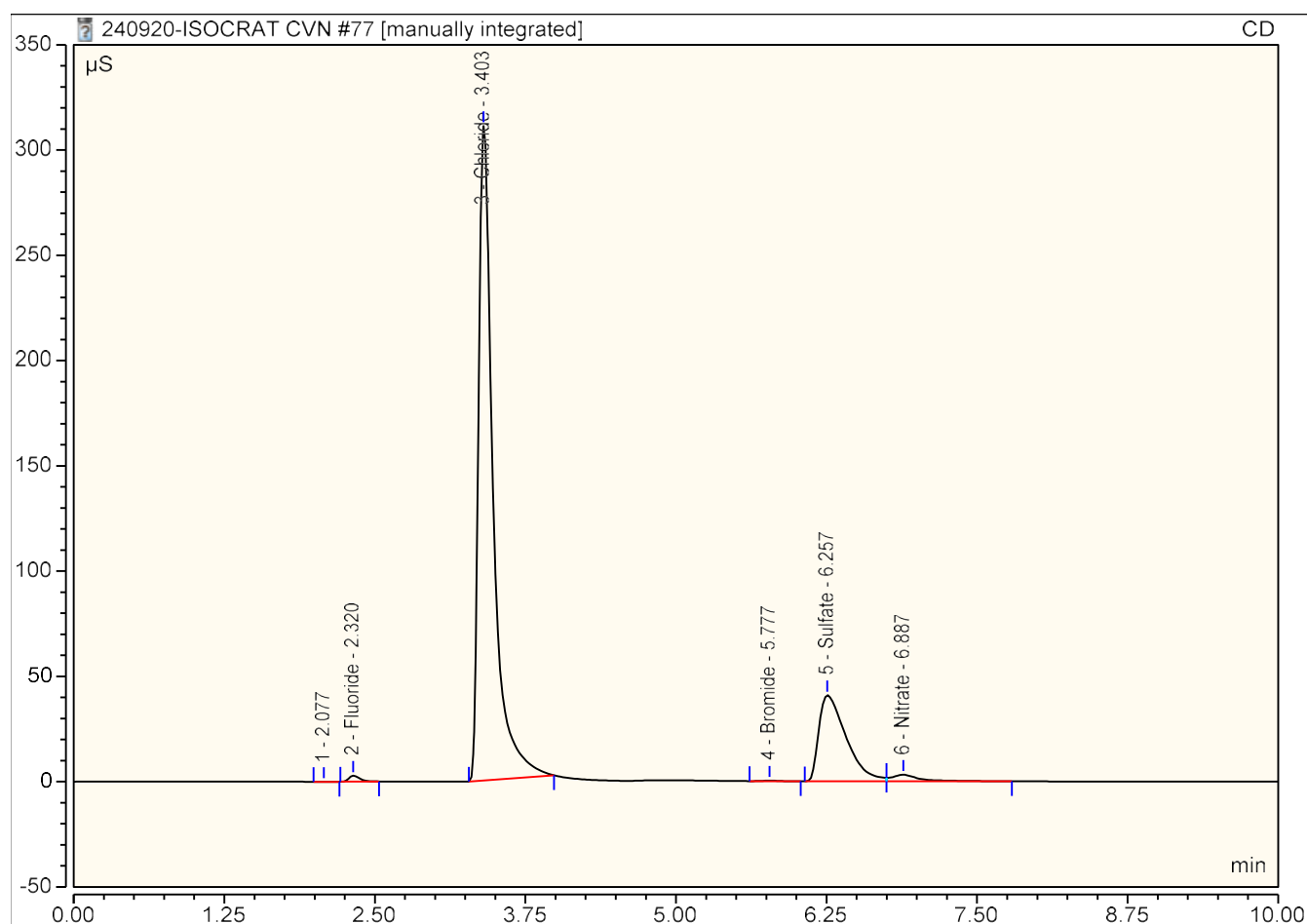
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.001	0.009	0.4571
4	3.43	Chloride	BMB*	2.755	21.332	69.3248
5	5.79	Bromide	BMB	0.001	0.005	0.3719
6	6.34	Sulfate	BMB	5.821	25.044	204.0383
TOTAL:				8.58	46.39	274.19



Peak Integration Report

Sample Name:	L2453985-04 MS NO3 SO4	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 22:57	Run Time:	10.00

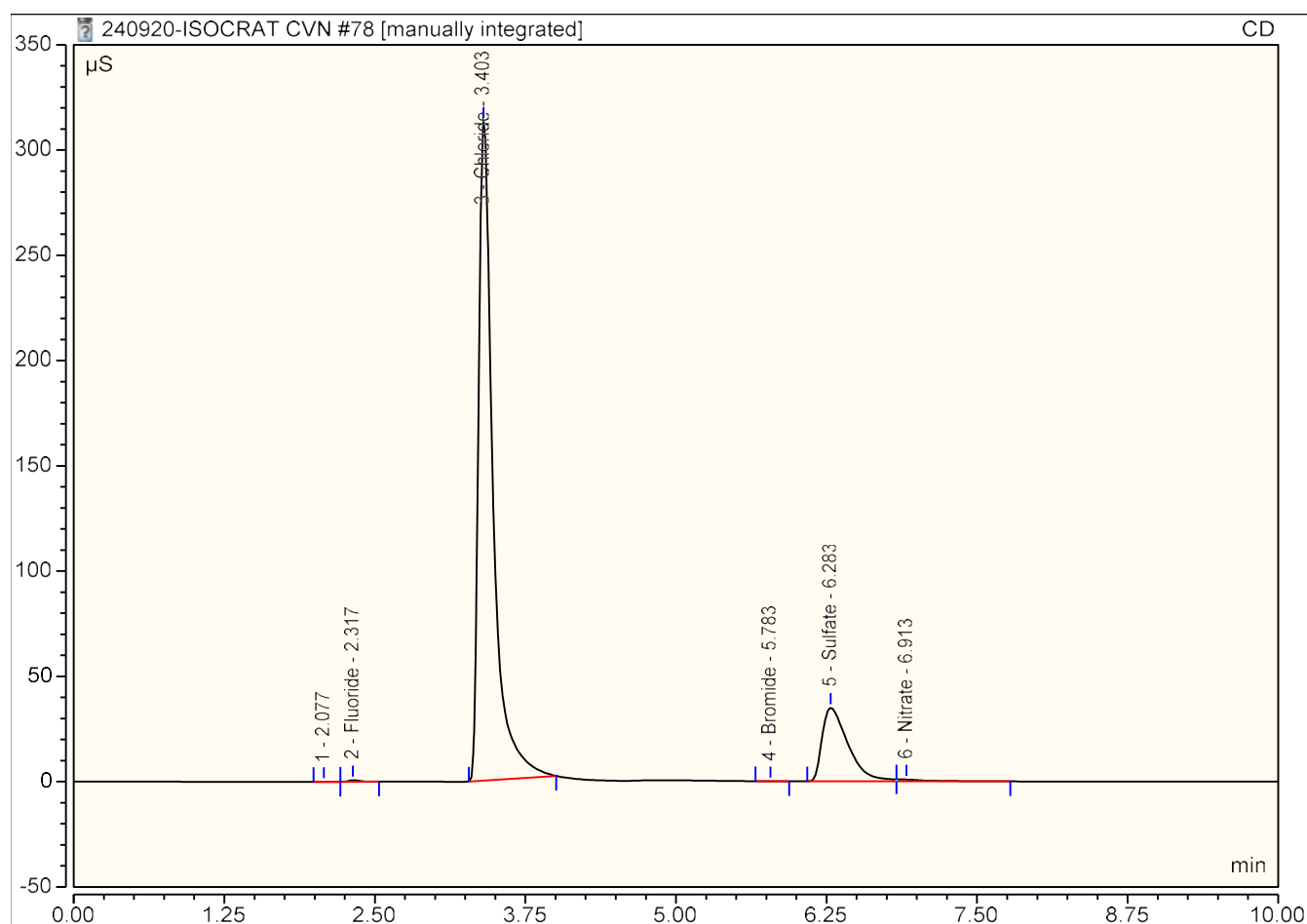
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.294	2.781	0.5809
3	3.40	Chloride	BMB*	43.587	310.756	106.6225
4	5.78	Bromide	BMB	0.041	0.276	0.3769
5	6.26	Sulfate	BM *	10.678	40.848	37.1980
6	6.89	Nitrate	MB*	0.841	3.115	0.6841
TOTAL:				55.44	357.78	145.46



Peak Integration Report

Sample Name:	L2453985-04 DUP	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 23:09	Run Time:	10.00

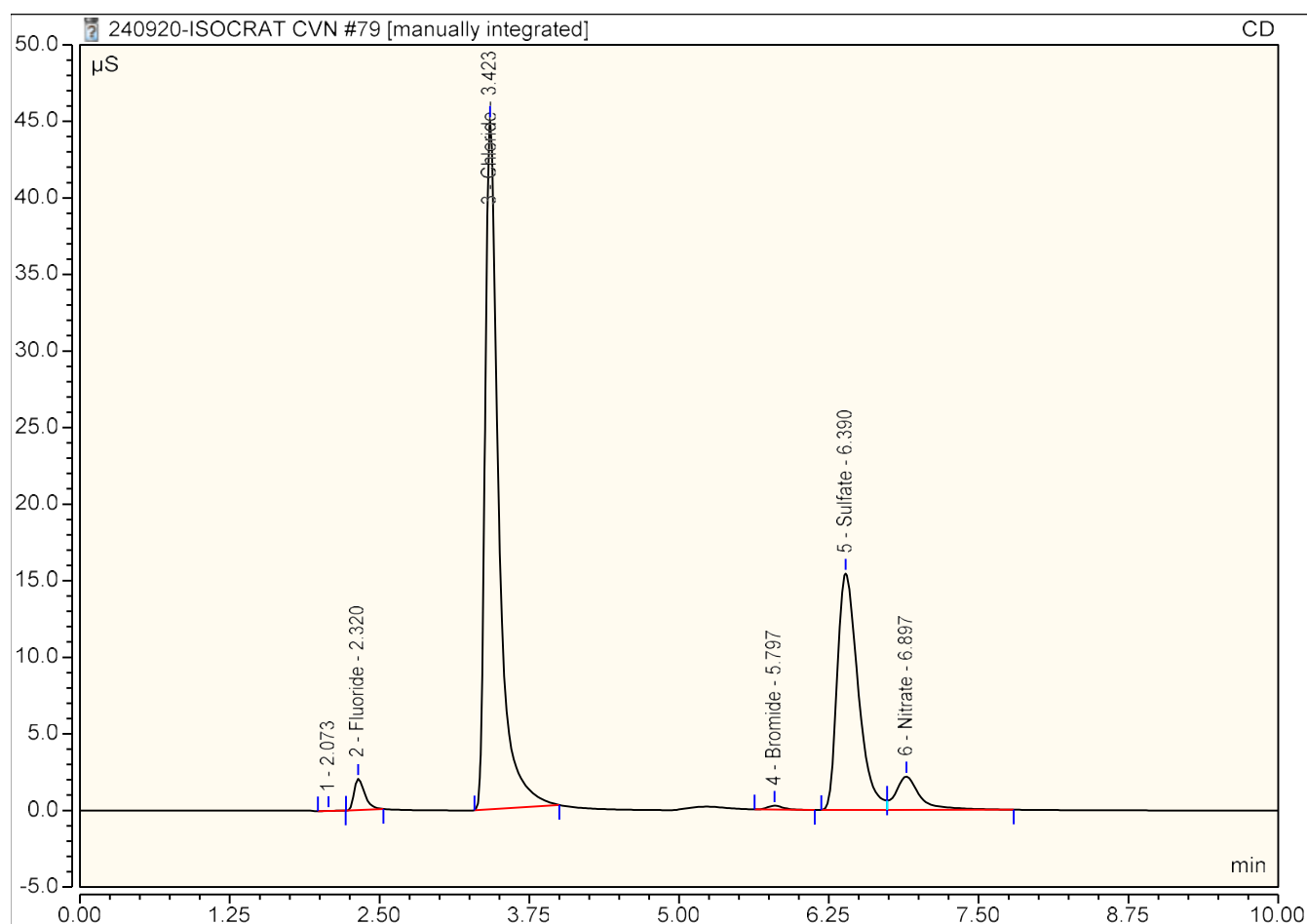
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.073	0.700	0.1784
3	3.40	Chloride	BMB*	43.804	312.978	107.1522
4	5.78	Bromide	BMB	0.002	0.019	0.0521
5	6.28	Sulfate	BM *	8.708	34.967	30.3863
6	6.91	Nitrate	MB*	0.272	0.888	0.2388
TOTAL:				52.86	349.55	138.01



Peak Integration Report

Sample Name:	L2453985-04 MS; 10X CL	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 23:21	Run Time:	10.00

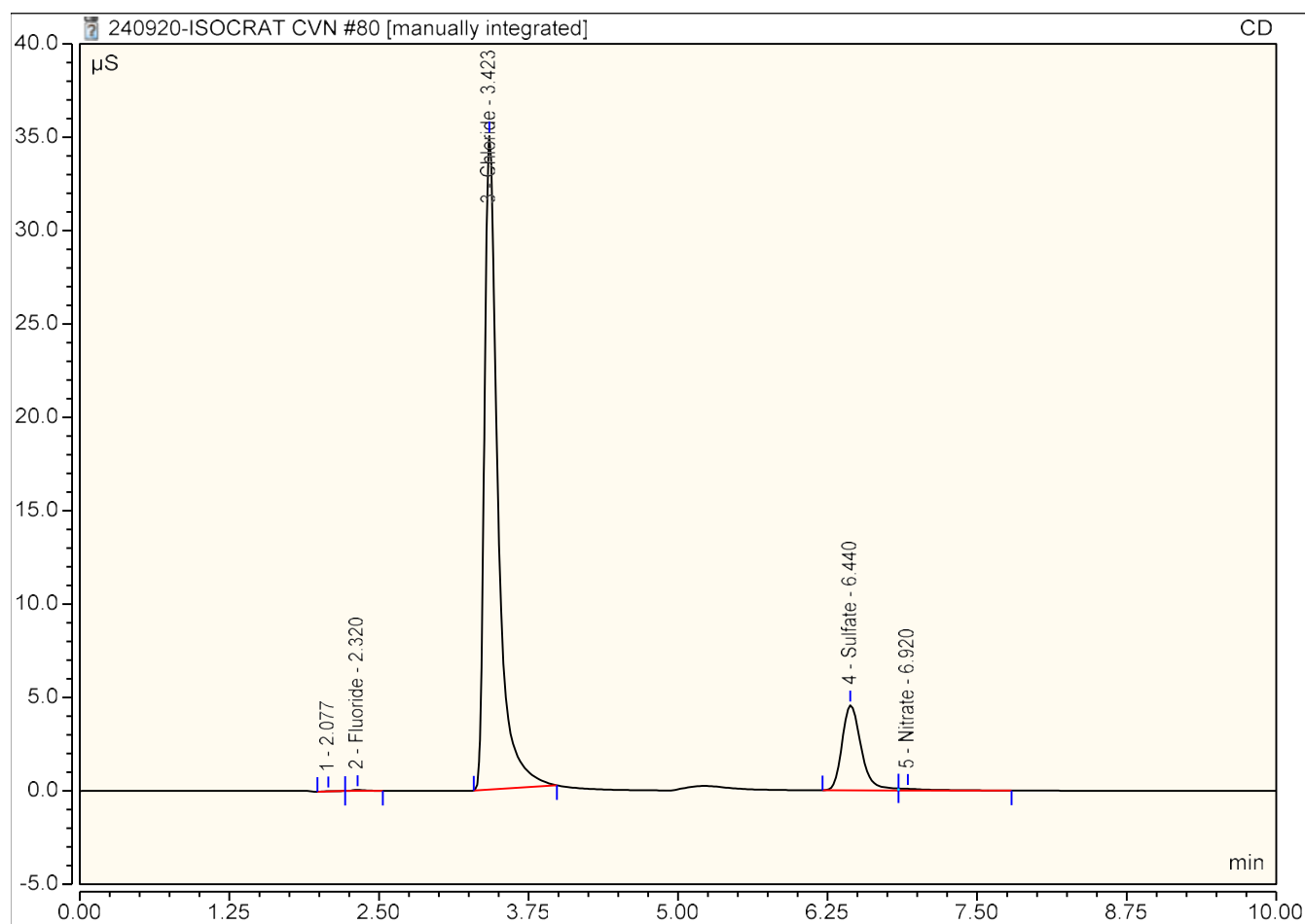
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.212	2.056	4.3034
3	3.42	Chloride	BMB*	5.945	44.957	147.1985
4	5.80	Bromide	BMB	0.039	0.256	3.5986
5	6.39	Sulfate	BM *	3.114	15.431	110.4208
6	6.90	Nitrate	MB*	0.509	2.181	4.2436
TOTAL:				9.82	64.88	269.76



Peak Integration Report

Sample Name:	L2453985-04 DUP; 10X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 23:33	Run Time:	10.00

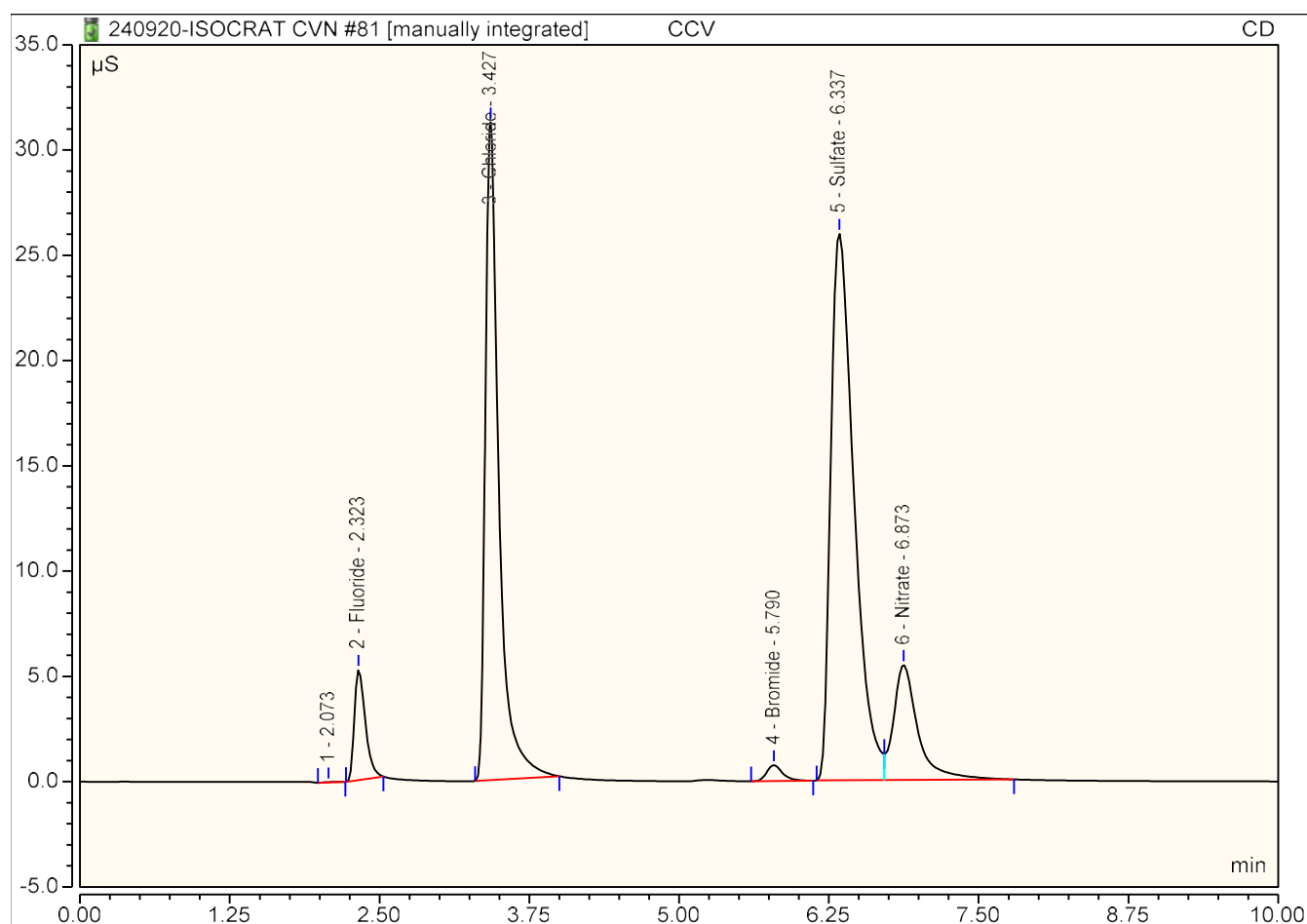
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.007	0.062	0.5740
3	3.42	Chloride	BMB*	4.593	34.992	114.2018
4	6.44	Sulfate	BM *	0.848	4.560	32.0972
5	6.92	Nitrate	MB*	0.029	0.091	0.4767
TOTAL:				5.48	39.70	147.35



Peak Integration Report

Sample Name:	CCV	Inj. Vol.:	25.00
Injection Type:	Check Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 23:45	Run Time:	10.00

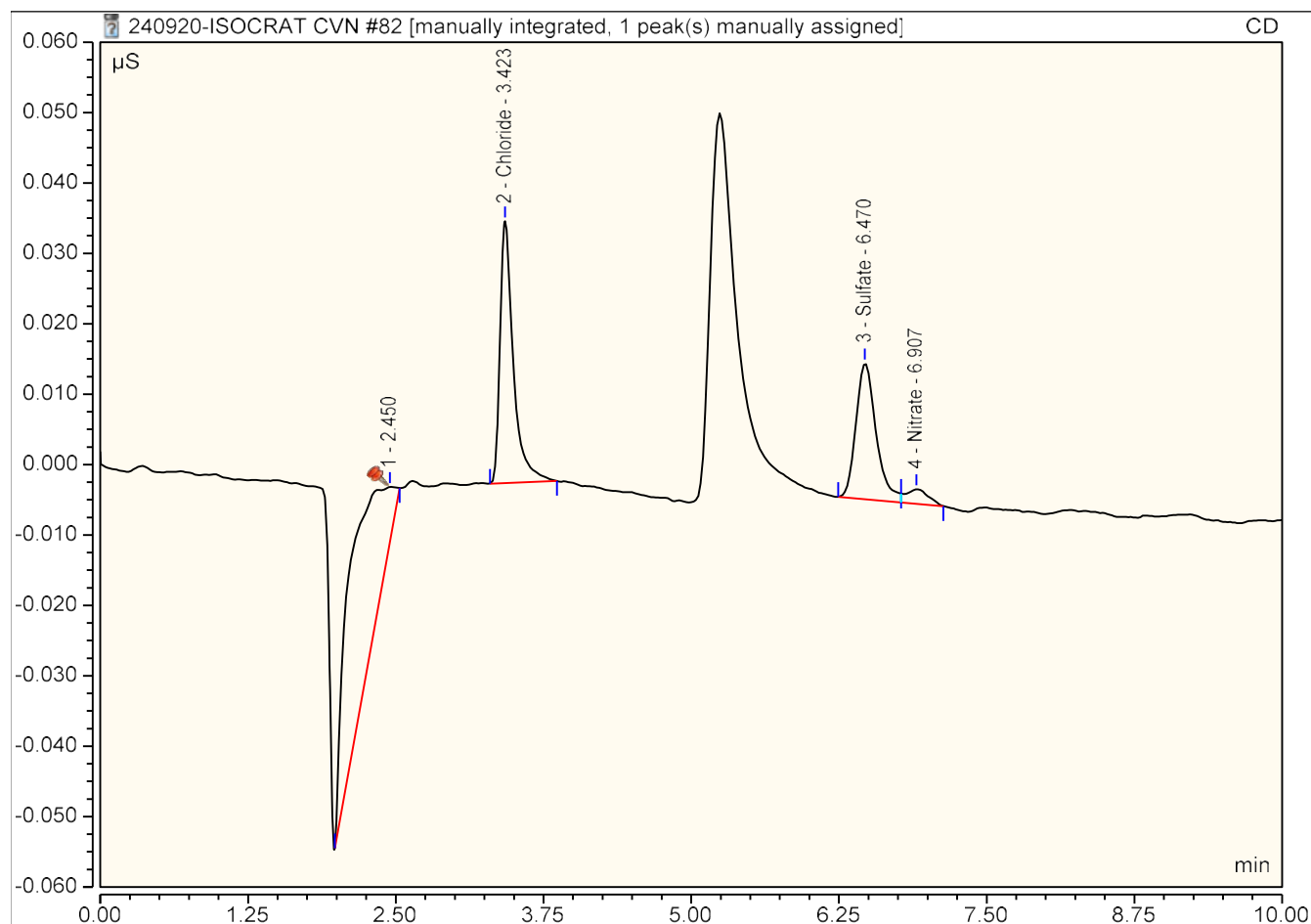
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.556	5.248	1.0587
3	3.43	Chloride	BMB*	4.097	31.251	10.2072
4	5.79	Bromide	BMB	0.117	0.759	1.0073
5	6.34	Sulfate	BM *	5.835	25.960	20.4529
6	6.87	Nitrate	MB*	1.292	5.471	1.0383
TOTAL:				11.90	68.69	33.76



Peak Integration Report

Sample Name:	CCB	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	20-Sep-2024 / 23:57	Run Time:	10.00

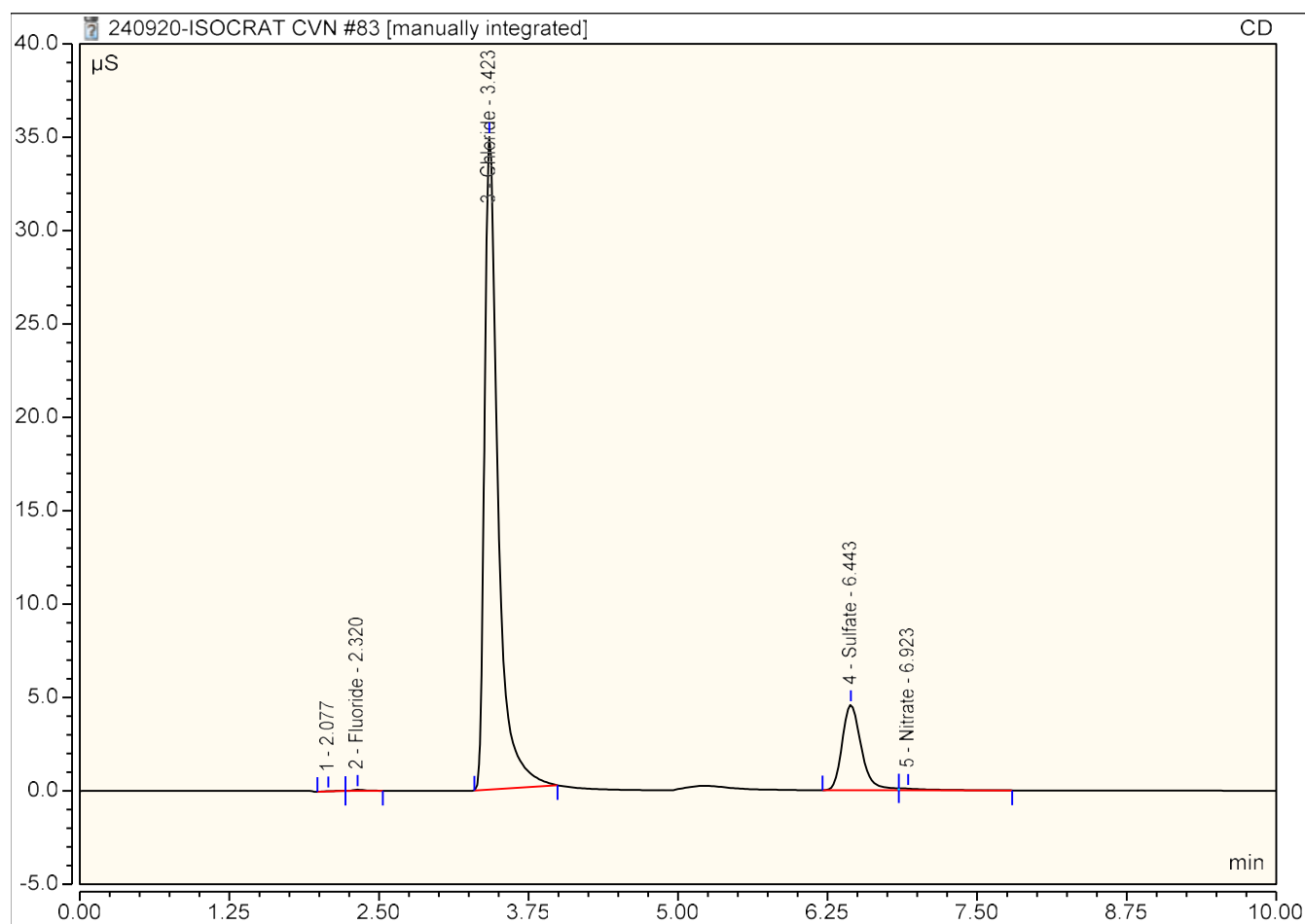
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	3.42	Chloride	BMB*	0.005	0.037	0.2174
3	6.47	Sulfate	BM *	0.004	0.019	0.2897
4	6.91	Nitrate	MB*	0.000	0.002	0.0256
TOTAL:				0.01	0.06	0.53



Peak Integration Report

Sample Name:	L2453985-04; 10X	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	10.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	21-Sep-2024 / 00:10	Run Time:	10.00

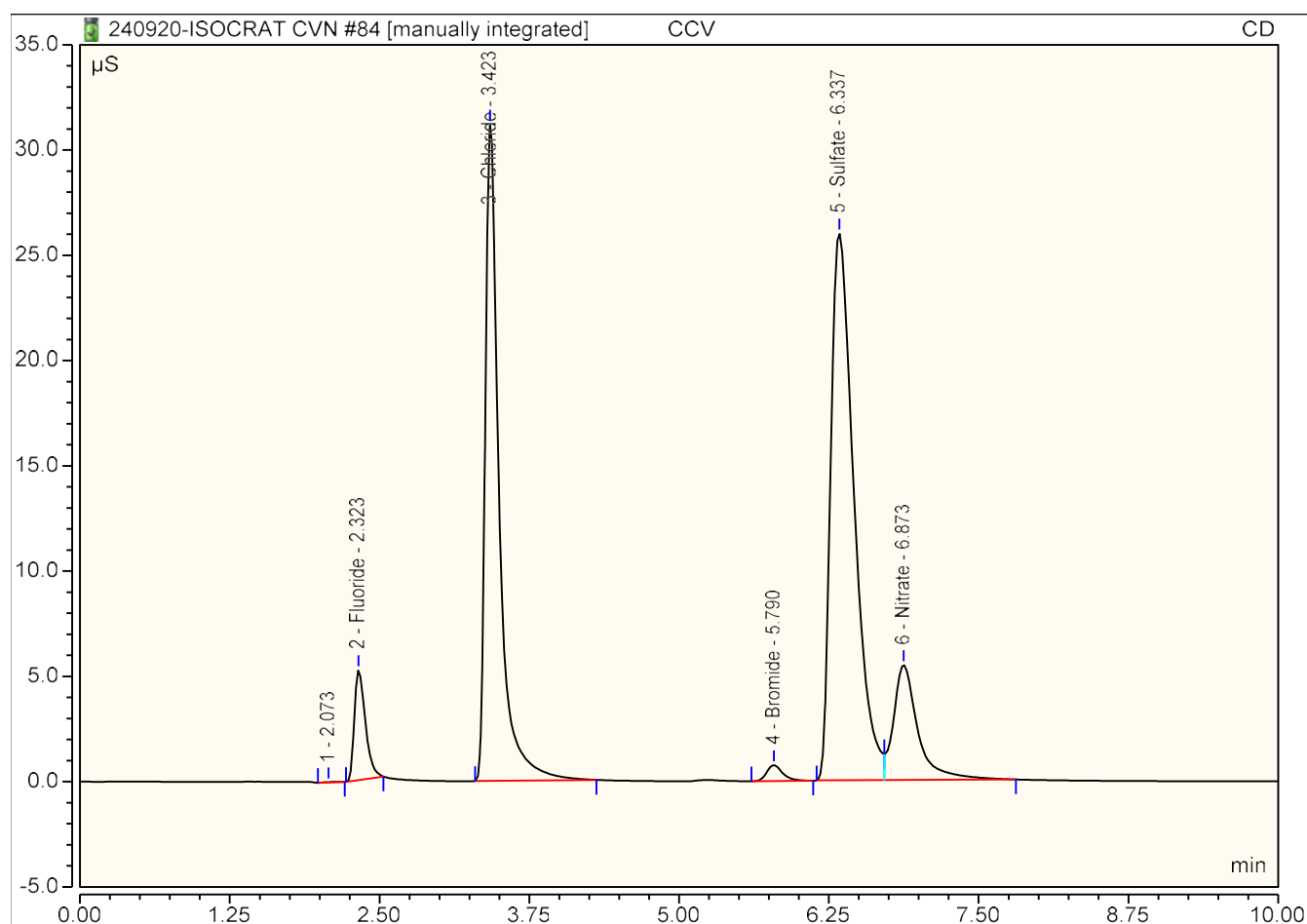
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.007	0.060	0.5703
3	3.42	Chloride	BMB*	4.594	34.942	114.2133
4	6.44	Sulfate	BM *	0.850	4.564	32.1693
5	6.92	Nitrate	MB*	0.028	0.090	0.4740
TOTAL:				5.48	39.66	147.43



Peak Integration Report

Sample Name:	CCV	Inj. Vol.:	25.00
Injection Type:	Check Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	21-Sep-2024 / 00:22	Run Time:	10.00

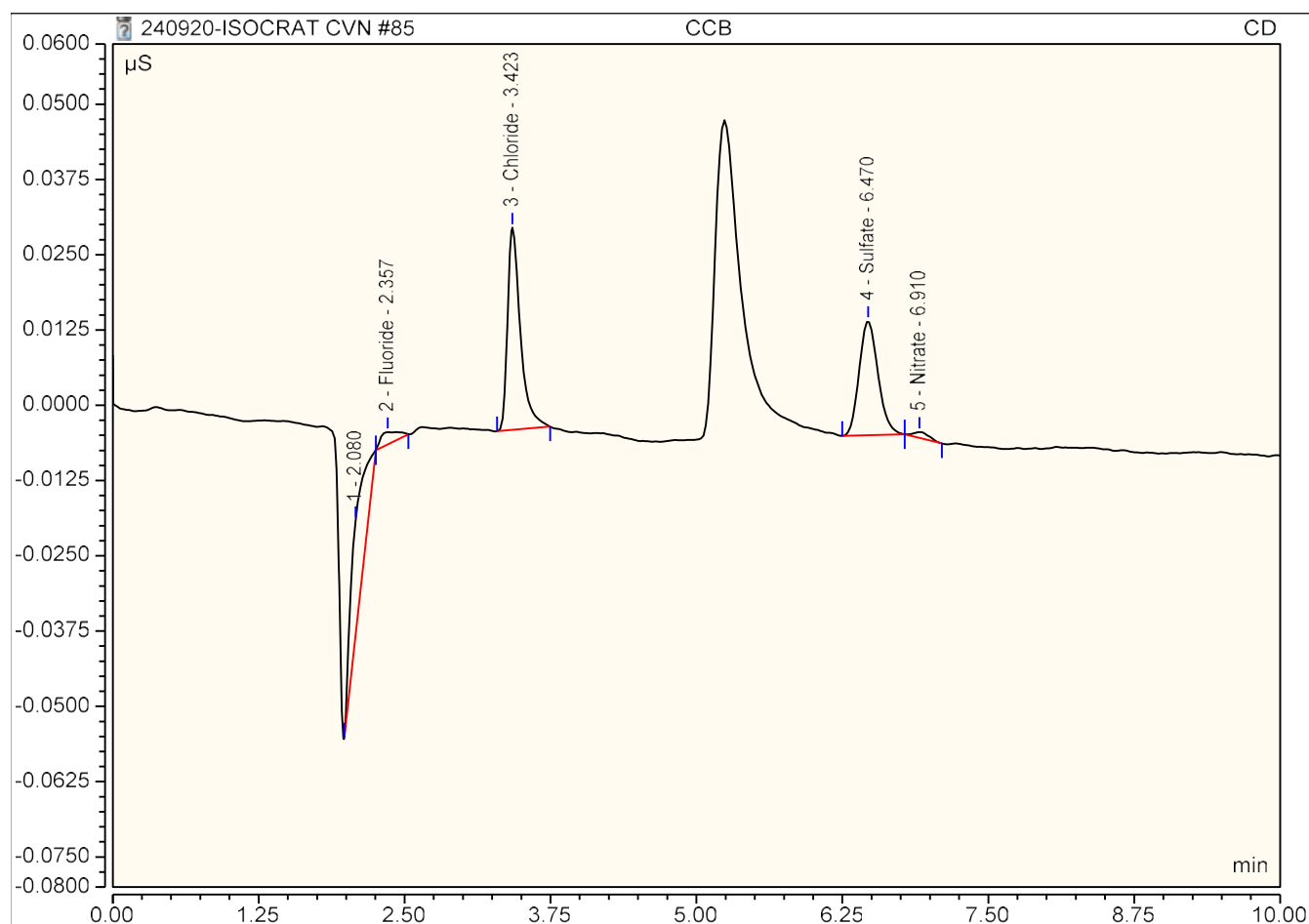
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.32	Fluoride	BMB	0.556	5.229	1.0580
3	3.42	Chloride	BMB*	4.178	31.173	10.4060
4	5.79	Bromide	BMB	0.117	0.758	1.0073
5	6.34	Sulfate	BM *	5.838	25.973	20.4603
6	6.87	Nitrate	MB*	1.288	5.468	1.0349
TOTAL:				11.98	68.60	33.97



Peak Integration Report

Sample Name:	CCB	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_050420_ThermoFisher	Operator:	IC 4
Inj. Date / Time:	21-Sep-2024 / 00:34	Run Time:	10.00

No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
2	2.36	Fluoride	BMB	0.000	0.002	0.0451
3	3.42	Chloride	BMB	0.004	0.034	0.2160
4	6.47	Sulfate	BMB	0.004	0.019	0.2888
5	6.91	Nitrate	BMB	0.000	0.001	0.0254
TOTAL:				0.01	0.06	0.58



Anion Summary Report

No.	Name	Dilution	Amount CD Fluoride	Amount CD Chloride	Amount CD Nitrate	Amount CD Sulfate	Amount CD Bromide
1	BLANK	1.0	n.a.	0.2129	n.a.	0.2810	n.a.
2	STD 0.5	1.0	0.0592	0.3873	0.0442	0.6237	0.0525
3	STD 1.0	1.0	0.0738	0.5947	0.0646	1.0491	0.0753
4	STD 2.0	1.0	0.1840	1.9971	0.1868	3.9561	0.1890
5	STD 3.0	1.0	0.4607	4.9336	0.4717	9.9320	0.4440
6	STD 4.0	1.0	1.9885	19.7203	2.0078	39.8861	2.0141
7	STD 5.0	1.0	5.0087	50.1170	5.2021	100.0530	5.2575
8	RINSE	1.0	0.0574	0.2167	n.a.	0.2805	n.a.
9	CCV	1.0	1.0451	10.0941	1.0419	20.2391	1.0174
10	CCB	1.0	n.a.	0.2174	0.0256	0.2843	n.a.
11	ICV	1.0	0.8593	8.3357	0.7476	8.1139	0.8235
12	ICB	1.0	n.a.	0.2182	0.0256	0.2836	n.a.
13	BLK	1.0	n.a.	0.2195	n.a.	0.2807	n.a.
14	LCS	1.0	0.8666	8.3768	0.7406	8.1675	0.8232
15	L2453053-01 BR MS	1.0	0.4868	5.5569	1.1284	12.2323	0.3547
16	L2453053-01 MSD	1.0	0.4873	5.5630	1.1228	12.2534	0.3553
17	L2453053-01	1.0	0.0944	1.5364	0.7151	4.1565	n.a.
18	L2453053-02	1.0	0.0618	9.3844	1.0809	17.8456	0.0668
19	L2453053-03	1.0	0.0601	5.5166	0.6480	7.4978	0.0437
20	L2453053-04	1.0	0.0752	14.8191	0.5180	27.4834	n.a.
21	CCV	1.0	1.0575	10.1694	1.0398	20.4161	1.0038
22	CCB	1.0	n.a.	0.2177	0.0255	0.2835	n.a.
23	L2453053-05	1.0	0.0617	9.5096	1.0947	18.1098	0.0664
24	L2453342-01 BR	1.0	0.0933	21.0882	0.5300	15.6990	0.0441
25	L2453342-02	1.0	0.0774	14.1236	1.0316	42.2995	0.0651
26	L2453342-03	1.0	0.0567	27.6154	2.0814	13.8598	0.0416
27	L2453342-04	1.0	0.0659	3.3049	n.a.	42.5626	n.a.
28	L2453342-05	1.0	0.0927	7.6745	0.1612	21.4740	0.0485
29	L2453342-06 MS	1.0	0.4198	5.5950	0.5673	9.9030	0.3560
30	L2453342-06 MSD	1.0	0.4199	5.5869	0.5676	9.8624	0.3547
31	L2453342-06	1.0	0.0564	1.6945	0.1781	1.9668	n.a.
32	L2453342-07	1.0	0.0814	16.5523	1.6323	17.9245	0.0453
33	CCV	1.0	1.0597	10.1722	1.0362	20.4383	1.0069
34	CCB	1.0	n.a.	0.2193	0.0256	0.2848	n.a.
35	L2453342-08	1.0	0.1145	10.2015	0.9376	28.2230	0.0401
36	L2453342-10	1.0	n.a.	0.2214	0.0260	0.2894	n.a.
37	L2453250-01 BR CL SO4	1.0	0.1337	247.2077	0.3949	49.2784	0.1955
38	L2453250-01; 10X	10.0	0.5188	275.8528	n.a.	55.5150	n.a.
39	L2453058-01 CL SO4 BR	1.0	0.0961	1.7085	0.7453	4.3049	n.a.
40	L2453058-02	1.0	0.1235	22.7801	1.2980	18.0996	n.a.
41	L2453058-03	1.0	0.1237	22.8251	1.2960	18.1147	n.a.
42	XL2453985-01 CL SO4 NO3	1.0	0.0717	65.0129	n.a.	189.9967	0.0403
43	XL2453985-02	1.0	n.a.	53.6439	10.7924	882.8567	n.a.
44	L2453985-04	1.0	0.1828	107.4539	0.2374	30.5639	0.0511
45	CCV	1.0	1.0682	10.2266	1.0383	20.5060	1.0121

46	CCB	1.0	n.a.	0.2230	0.0258	0.2959	n.a.
47	BLK-2	1.0	n.a.	0.2221	n.a.	0.2889	n.a.
48	LCS-2	1.0	0.8660	8.3482	0.7383	8.1306	0.8184
49	XL2453433-01 CL	1.0	0.2159	151.8308	n.a.	12.4674	0.5377
50	L2453433-01; 10X	10.0	0.6233	172.3261	n.a.	14.5484	0.7120
51	XL2453433-02	1.0	0.4528	265.1267	0.1718	2.7463	0.3905
52	L2453433-02; 10X	10.0	0.7966	293.0261	0.3690	4.8835	0.5736
53	L2453399-01 BR CL SO4	1.0	0.0549	33.6121	2.9123	27.6803	n.a.
54	L2453399-02 MS	1.0	0.4479	21.7286	6.1144	30.1670	0.3877
55	L2453399-02 MSD	1.0	0.4483	21.7584	6.1270	30.2764	0.3881
56	L2453399-02	1.0	0.0734	18.3268	5.8884	23.0202	n.a.
57	CCV	1.0	1.0653	10.2101	1.0315	20.5503	1.0106
58	CCB	1.0	n.a.	0.2130	0.0257	0.2851	n.a.
59	L2453399-03	1.0	0.0568	32.6692	0.4055	3.2417	0.0570
60	L2453399-04	1.0	0.0781	7.5167	n.a.	4.5938	0.0415
61	L2443399-05	1.0	0.0701	3.7859	n.a.	0.9136	0.0351
62	L2453400-01 BR CL SO4	1.0	0.0557	166.9800	n.a.	71.1172	0.0832
63	L2453400-01; 10X	10.0	0.4480	186.3504	n.a.	78.0160	0.3429
64	L2453400-02	1.0	0.0476	167.2335	n.a.	71.1954	0.0853
65	L2453400-02; 10X	10.0	0.4686	197.1201	n.a.	82.8044	n.a.
66	L2453400-03	1.0	0.0786	252.1996	0.1680	14.1225	n.a.
67	L2453400-03; 10X	10.0	0.4895	294.8066	0.3969	16.8185	0.3369
68	L2453400-04	1.0	n.a.	0.2219	0.0256	0.2863	n.a.
69	CCV	1.0	1.0532	10.1966	1.0340	20.4166	1.0030
70	CCB	1.0	0.0454	0.2193	0.0256	0.2910	n.a.
71	L2453383-01 CL SO4	1.0	0.6438	19.4495	0.1223	4.0775	n.a.
72	XL2453383-01; 10X	10.0	0.9496	21.7379	0.3414	6.0025	0.4692
73	L2453058-01 MS	1.0	0.4755	5.5435	1.1389	12.0874	0.3412
74	L2453058-01 MSD	1.0	0.4772	5.5545	1.1390	12.0877	0.3401
75	L2453985-02; 25X	25.0	1.5411	53.4003	n.a.	931.1507	n.a.
76	L2453985-01; 10X	10.0	0.4571	69.3248	n.a.	204.0383	0.3719
77	L2453985-04 MS NO3 SO4	1.0	0.5809	106.6225	0.6841	37.1980	0.3769
78	L2453985-04 DUP	1.0	0.1784	107.1522	0.2388	30.3863	0.0521
79	L2453985-04 MS; 10X CL	10.0	4.3034	147.1985	4.2436	110.4208	3.5986
80	L2453985-04 DUP; 10X	10.0	0.5740	114.2018	0.4767	32.0972	n.a.
81	CCV	1.0	1.0587	10.2072	1.0383	20.4529	1.0073
82	CCB	1.0	n.a.	0.2174	0.0256	0.2897	n.a.
83	L2453985-04; 10X	10.0	0.5703	114.2133	0.4740	32.1693	n.a.
84	CCV	1.0	1.0580	10.4060	1.0349	20.4603	1.0073
85	CCB	1.0	0.0451	0.2160	0.0254	0.2888	n.a.
	Sum:	208.000	38.6932		78.9515	3800.0967	30.2567
	Average:	2.447	0.5374		1.1611	44.7070	0.5709
	Rel.Std.Dev:	160.083 %	1.5180		1.5850	3.1142	1.5538

Inject Time	Comment
05/Sep/2024 16:08	AU
05/Sep/2024 16:20	LOT#240905-0.5
05/Sep/2024 16:33	LOT#240905-1.0
05/Sep/2024 16:45	LOT#240905-2.0
05/Sep/2024 16:57	LOT#240905-3.0
05/Sep/2024 17:09	LOT#240905-4.0
05/Sep/2024 17:21	LOT#240905-5.0
20/Sep/2024 09:03	4321-4201-4405-4208-4204
20/Sep/2024 09:15	LOT#240916-C
20/Sep/2024 09:27	CVN
20/Sep/2024 09:39	LOT#240916-I
20/Sep/2024 09:51	CVN
20/Sep/2024 10:03	CVN
20/Sep/2024 10:16	LOT#240916-I
20/Sep/2024 10:28	CVN
20/Sep/2024 10:40	CVN
20/Sep/2024 10:52	CVN
20/Sep/2024 11:04	CVN
20/Sep/2024 11:16	CVN
20/Sep/2024 11:28	CVN
20/Sep/2024 11:40	LOT#240916-C
20/Sep/2024 11:52	CVN
20/Sep/2024 12:04	CVN
20/Sep/2024 12:16	CVN
20/Sep/2024 12:28	CVN
20/Sep/2024 12:41	CVN
20/Sep/2024 12:53	CVN
20/Sep/2024 13:05	CVN
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20/Sep/2024 13:41	CVN
20/Sep/2024 13:53	CVN
20/Sep/2024 14:05	LOT#240916-C
20/Sep/2024 14:17	CVN
20/Sep/2024 14:29	CVN
20/Sep/2024 14:41	CVN
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20/Sep/2024 15:06	CVN
20/Sep/2024 15:18	CVN
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20/Sep/2024 15:54	CVN
20/Sep/2024 16:06	CVN
20/Sep/2024 16:18	CVN
20/Sep/2024 16:30	LOT#240916-C

20/Sep/2024 16:42	CVN
20/Sep/2024 16:54	CVN
20/Sep/2024 17:06	LOT#240916-I
20/Sep/2024 17:19	CVN
20/Sep/2024 17:31	CVN
20/Sep/2024 17:43	CVN
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20/Sep/2024 18:07	CVN
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20/Sep/2024 19:19	CVN
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20/Sep/2024 19:44	CVN
20/Sep/2024 19:56	CVN
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20/Sep/2024 22:09	CVN
20/Sep/2024 22:21	CVN
20/Sep/2024 22:33	CVN
20/Sep/2024 22:45	CVN
20/Sep/2024 22:57	CVN
20/Sep/2024 23:09	CVN
20/Sep/2024 23:21	CVN
20/Sep/2024 23:33	CVN
20/Sep/2024 23:45	CVN
20/Sep/2024 23:57	CVN
21/Sep/2024 00:10	CVN
21/Sep/2024 00:22	LOT#240916-C
21/Sep/2024 00:34	CVN
	0.000
	#DIV/0!
	#DIV/0!

Quality Control

Form 5a Matrix Spike

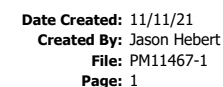
Client : Roux Env. Eng. & Geology, DPC	Lab Number : L2453058
Project Name : CORAM MATERIALS: CLOSED LF	Project Number : 2232.0006Y005
Client Sample ID : MW-15R	Matrix : WATER
Lab Sample ID : L2453058-01	
Matrix Spike : WG1974204-6	MS Analysis Date : 09/20/24 22:09
Matrix Spike Dup : WG1974204-7	MSD Analysis Date : 09/20/24 22:21

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample			Matrix Spike Duplicate			RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Spike Added (mg/l)	Spike Conc. (mg/l)	%R			
Bromide	ND	0.4	0.341	86 Q	0.4	0.340	84 Q	0	90-110	20
Chloride	1.71	4	5.54	96	4	5.55	96	0	90-110	18
Sulfate	4.30	8	12.1	98	8	12.1	98	0	90-110	20

Form 7 Laboratory Control Sample

Client : Roux Env. Eng. & Geology, DPC Project Name : CORAM MATERIALS: CLOSED LF Client Sample ID : NA Lab Sample ID : WG1974204-5 Dup Sample ID :	Lab Number : L2453058 Project Number : 2232.0006Y005 Matrix : WATER LCS Analysis Date : 09/20/24 17:06 LCSD Analysis Date :

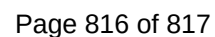
Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Bromide	0.800	0.818	102.					90-110	20
Chloride	8.00	8.35	104.					90-110	18
Sulfate	8.00	8.13	102.					90-110	20

[illegible]

Please Note that the RL Information provided in this table is calculated using a 100% Solids factor. (Soll/Solids only)
Please Note that the Information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.



Westborough, MA • Mansfield, MA • Bangor, ME • Portsmouth, NH • Mahwah, NJ • Albany, NY • Buffalo, NY • Holmes, PA





Calculations of Anions by Ion Chromatography

Aqueous samples:

The Dionex calculates the area of the peaks produced by the instrument, compares them to the peak area of the calibration standard stored in its memory, and calculates result in mg/L.

If the sample was manually diluted prior to analysis, the calculated mean must be manually multiplied by the dilution factor. The Reported Detection Limit is also multiplied by the same dilution factor.

$$\text{Result, mg/L} = \frac{\text{area} - \text{y-intercept}}{\text{slope}} \times \text{Dilution Factor}$$

